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In the Specification:

Please amend the specification as shown.

Please amend the paragraph on page 18, lines 6-27, as follows:

In another embodiment of the invention, said nucleotides are linked to each other by means of a phosphorothioate group, such as all nucleotides being linked to each other by means of a phosphorothioate group. An interesting embodiment of the invention is directed to compounds of SEQ NO 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, and 144 wherein each linkage group within each compound is a phosphorothioate group. Such modifications is denoted by the subscript S. Alternatively stated, one aspect of the invention is directed to compounds of SEQ NO 2_A , 3_A , 4_A , 5_A , 6_S , 7_S , 8_S , 9_A , 10_A , 11_A , 12_A , 13_A , 14_A , 15_{A} , 16_{A} , 17_{A} , 18_{A} , 19_{A} , 20_{A} , 21_{A} , 22_{A} , 23_{A} , 24_{A} , 25_{A} , 26_{A} , 27_{A} , 28_{A} , 29_{A} , 30_{A} , 31_{A} , 32_{A} , 33_{A} , 34_{A} , 35_{A} , 36_{A} , 37_{S} , 38_{A} , 39_{A} , 40_{A} , 41_{A} , 42_{A} , 43_{A} , 44_{A} , 45_{A} , 46_{A} , 47_{A} , 48_{A} , 49_{A} , 50_{A} , 51_{A} , 52_{A} , 53_A, 54_A, 55_A, 56_A, 57_A, 58_A, 59_A, 60_A, 61_A, 62_A, 63_A, 64_A, 65_A, 66_A, 67_A, 68_A, 69_A, 70_A, 71_A, 72a, 73a, 74a, 75a, 76a, 77a, 78a, 79a, 80a, 81a, 82a, 83a, 84a, 85a, 86a, 87a, 88a, 89a, 90a, $91_{A}, 92_{A}, 93_{A}, 94_{A}, 95_{A}, 96_{A}, 97_{A}, 98_{A}, 99_{A}, 100_{A}, 101_{A}, 102_{A}, 103_{A}, 104_{A}, 105_{A}, 106_{A}, 107_{A}$ 108_A, 109_A, 101_A, 102_A, 103_A, 104_A, 105_A, 106_A, 107_A, 108_A, 109_A, 110_A, 111_A, 112_A, 113_A, 114₀, 115₀, 116₀, 117₀, 118₀, 119₀, 120₀, 121₀, 122₀, 123₀, 124₀, 125₀, 126₀, 127₀, 128₀, 129_A, 130_A, 131_A, 132_A, 133_A, 134_A, 135_A, 136_A, 137_A, 138_A, 139_A, 140_A, 141_A, 142_A, 143_A, and 144_A- 147, 151, 155, 159, 163, 167, 171, 175, 179, 183, 187, 191, 195, 199, 204, 208, 212, 216, 220, 224, 228, 232, 236, 240, 244, 248, 252, 256, 260, 264, 268, 272, 276, 280, 284, 288, 292, 296, 300, 304, 308, 312, 316, 320, 324, 328, 332, 336, 340, 344, 348, 352,

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356, 360, 364, 368, 372, 376, 380, 384, 388, 392, 396, 400, 404, 408, 412, 416, 420, 424, 428, 432, 436, 440, 444, 448, 452, 456, 460, 464, 468, 472, 476, 480, 484, 488, 492, 496, 500, 504, 508, 512, 516, 520, 524, 528, 532, 536, 540, 544, 548, 552, 556, 560, 564, 568, 572, 576, 580, 584, 588, 592, 596, 600, 604, 608, 612, 616, 620, 624, 628, 632, 636, 640, 644, 648, 652, 656, 660, 664, 668, 672, 676, 680, 684, 688, 692, 696, 700, 704, 708, 712 and 716.

Please amend the paragraph on page 18, lines 29-30, as follows:

A preferred subset of embodiments of the invention are compounds comprising sequences of the formula 2_A, 4_A, 6_A, 9_A, 15_A, 118_A, 120_A, 123_A, 128_A, 129_A, and 131_A SEQ ID NOS 147, 155, 163, 175, 199, 612, 620, 632, 652, 656 and 664.

Please amend the paragraph on page 18, line 32, to page 19, line 2, as follows:

A further aspect of the invention is directed to compounds of SEQ NOS 2_B, 3_B, 4_B, 5_B, 6_S, 7_S, 8_B, 9_B, 10_B, 11_B, 12_B, 13_B, 14_B, 15_B, 16_B, 17_B, 18_B, 19_B, 20_B, 21_B, 22_B, 23_B, 24_B, 25_B, 26_B, 27_B, 28_B, 29_B, 30_B, 31_B, 32_B, 33_B, 34_B, 35_B, 36_B, 37_S, 38_B, 39_B, 40_B, 41_B, 42_B, 43_B, 44_B, 45_B, 46_B, 47_B, 48_B, 49_B, 50_B, 51_B, 52_B, 53_B, 54_B, 55_B, 56_B, 57_B, 58_B, 59_B, 60_B, 61_B, 62_B, 63_B, 64_B, 65_B, 66_B, 67_B, 68_B, 69_B, 70_B, 71_B, 72_B, 73_B, 74_B, 75_B, 76_B, 77_B, 78_B, 79_B, 80_B, 81_B, 82_B, 83_B, 84_B, 85_B, 86_B, 87_B, 88_B, 89_B, 90_B, 91_B, 92_B, 93_B, 94_B, 95_B, 96_B, 97_B, 98_B, 99_B, 100_B, 101_B, 102_B, 103_B, 104_B, 105_B, 106_B, 107_B, 108_B, 109_B, 101_B, 102_B, 103_B, 104_B, 105_B, 106_B, 107_B, 108_B, 109_B, 110_B, 111_B, 112_B, 113_B, 114_B, 115_B, 116_B, 117_B, 118_B, 119_B, 120_B, 121_B, 122_B, 123_B, 124_B, 125_B, 126_B, 127_B, 128_B, 129_B, 130_B, 131_B, 132_B, 133_B, 134_B, 135_B, 136_B, 137_B, 138_B, 139_B, 140_B, 141_B, 142_B, 143_B, and 144_B. 148, 152, 156, 160, 164, 168, 172, 176, 180, 184, 188, 192, 196, 200, 205, 209, 213, 217, 221, 225, 229, 233, 237, 241, 245, 249, 253, 257, 261, 265, 269, 273, 277, 281, 285, 289, 293, 297, 301, 305, 309, 313, 317, 321, 325, 329, 333, 337, 341, 345, 349, 353, 357, 361, 365, 369, 373, 377, 381, 385, 389, 393, 397, 401, 405, 409, 413, 417, 421, 425, 429, 433, 437, 441, 445, 449, 453, 457, 461, 465, 469,

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473, 477, 481, 485, 489, 493, 497, 501, 505, 509, 513, 517, 521, 525, 529, 533, 537, 541, 545, 549, 553, 557, 561, 565, 569, 573, 577, 581, 585, 589, 593, 597, 601, 605, 609, 613, 617, 621, 625, 629, 633, 637, 641, 645, 649, 653, 657, 661, 665, 669, 673, 677, 681, 685, 689, 693, 697, 701, 705, 709, 713 and 717.

Please amend the paragraph on page 19, lines 4-5, as follows:

A preferred subset of embodiments of the invention are compounds comprising sequences of the <u>SEQ ID NOS</u> formula 118_B, 119_B, 120_B, 121_B, 122_B, 123_B, 128_B, 129_B, 130_B, and 131_B. 613, 617, 621, 625, 629, 633, 653, 657, 661 and 665.

Please amend the paragraph on page 19, lines 7-16, as follows:

A further aspect of the invention is directed to compounds of SEQ NOS 2_G, 3_G, 4_G, 5_G, 6_S, 7_S, 8_G, 9_G, 10_G, 11_G, 12_G, 13_G, 14_G, 15_G, 16_G, 17_G, 18_G, 19_G, 20_G, 21_G, 22_G, 23_G, 24_G, 25_G, 26_G, 27_G, 28_G, 29_G, 30_G, 31_G, 32_G, 33_G, 34_G, 35_G, 36_G, 37_S, 38_G, 39_G, 40_G, 41_G, 42_G, 43_G, 44_G, 45_G, 46_G, 47_G, 48_G, 49_G, 50_G, 51_G, 52_G, 53_G, 54_G, 55_G, 56_G, 57_G, 58_G, 59_G, 60_G, 61_G, 62_G, 63_G, 64_G, 65_G, 66_G, 67_G, 68_G, 69_G, 70_G, 71_G, 72_G, 73_G, 74_G, 75_G, 76_G, 77_G, 78_G, 79_G, 80_G, 81_G, 82_G, 83_G, 84_G, 85_G, 86_G, 87_G, 88_G, 89_G, 90_G, 91_G, 92_G, 93_G, 94_G, 95_G, 96_G, 97_G, 98_G, 99_G, 100_G, 101_G, 102_G, 103_G, 104_G, 105_G, 106_G, 107_G, 108_G, 109_G, 101_G, 102_G, 103_G, 104_G, 105_G, 106_G, 107_G, 108_G, 109_G, 110_G, 111_G, 112_G, 113_G, 114_G, 115_G, 116_G, 117_G, 118_G, 119_G, 120_G, 121_G, 122_G, 123_G, 124_G, 125_G, 126_G, 127_G, 128_G, 129_G, 130_G, 131_G, 132_G, 133_G, 134_G, 135_G, 136_G, 137_G, 138_G, 139_G, 140_G, 141_G, 142_G, 143_G, and 144_G, 149, 153, 157, 161, 165, 169, 173, 177, 181_A, 185, 189, 193, 197, 201, 206, 210, 214, 218, 222, 226, 230, 234, 238, 242, 246, 250, 254, 258, 262, 266, 270, 274, 278, 282, 286, 290, 294, 298, 302, 306, 310, 314, 318, 322, 326, 330, 334, 338, 342, 346, 350, 354, 358, 362, 366, 370, 374, 378, 382, 386, 390, 394, 398, 402, 406, 410, 414, 418, 422, 426, 430, 434, 438, 442, 446, 450, 454, 458, 462, 466, 470, 474, 478, 482, 486, 490, 494, 498, 502, 506, 510, 514, 518, 522, 526, 530, 534, 538, 542,

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546, 550, 554, 558, 562, 566, 570, 574, 578, 582, 586, 590, 594, 598, 602, 606, 610, 614, 618, 622, 626, 630, 634, 638, 642, 646, 650, 654, 658, 662, 666, 670, 674, 678, 682, 686, 690, 694, 698, 702, 706, 710, 714 and 718.

Please amend the paragraph on page 19, lines 18-27, as follows:

A further aspect of the invention is directed to compounds of SEQ NOS 2_D , 3_D , 4_D , 5_D , 6_S , 7_S , 8_D, 9_D, 10_D, 11_D, 12_D, 13_D, 14_D, 15_D, 16_D, 17_D, 18_D, 19_D, 20_D, 21_D, 22_D, 23_D, 24_D, 25_D, 26_D, 27_D, 28_D, 29_D, 30_D, 31_D, 32_D, 33_D, 34_D, 35_D, 36_D, 37_S, 38_D, 39_D, 40_D, 41_D, 42_D, 43_D, 44_D, 45_D, 46_D, 47_D, 48_D, 49_D, 50_D, 51_D, 52_D, 53_D, 54_D, 55_D, 56_D, 57_D, 58_D, 59_D, 60_D, 61_D, 62_D, 63_D, 64_D, 65_D, 66_D, 67_D, 68_D, 69_D, 70_D, 71_D, 72_D, 73_D, 74_D, 75_D, 76_D, 77_D, 78_D, 79_D, 80_D, 81_D, 82_D, 83_D, 84p, 85p, 86p, 87p, 88p, 89p, 90p, 91p, 92p, 93p, 94p, 95p, 96p, 97p, 98p, 99p, 100p, 101p, 102p, 103p, 104p, 105p, 106p, 107p, 108p, 109p, 101p, 102p, 103p, 104p, 105p, 106p, 107p, 108_{D} , 109_{D} , 110_{D} , 111_{D} , 112_{D} , 113_{D} , 114_{D} , 115_{D} , 116_{D} , 117_{D} , 118_{D} , 119_{D} , 120_{D} , 121_{D} , 122_{D} , $123_{\rm p}$, $124_{\rm p}$, $125_{\rm p}$, $126_{\rm p}$, $127_{\rm p}$, $128_{\rm p}$, $129_{\rm p}$, $130_{\rm p}$, $131_{\rm p}$, $132_{\rm p}$, $134_{\rm p}$, $134_{\rm p}$, $135_{\rm p}$, $136_{\rm p}$, $137_{\rm p}$ 138_D, 139_D, 140_D, 141_D, 142_D, 143_D, and 144_D, 150, 154, 158, 162, 166, 170, 174, 178, 182, 186, 190, 194, 198, 202, 207, 211, 215, 219, 223, 227, 231, 235, 239, 243, 247, 251, 255, 259, 263, 267, 271, 275, 279, 283, 287, 291, 295, 299, 303, 307, 311, 315, 319, 323, 327, 331, 335, 339, 343, 347, 351, 355, 359, 363, 367, 371, 375, 379, 383, 387, 391, 395, 399, <u>403, 407, 411, 4</u>15, 419, 423, 427, 431, 435, 439, 443, 447, 451, 455, 459, 463, 467, 471, <u>475, 479, 483, 487, 491, 495, 499, 503, 507, 511, 515, 519, 523, 527, 531, 535, 539, 543, </u> <u>547, 551, 555, 559, 563, 567, 571, 575, 579, 583, 587, 591, 595, 599, 603, 607, 611, 615, </u> 619, 623, 627, 631, 635, 639, 643, 647, 651, 655, 659, 663, 667, 671, 675, 679, 683, 687, 691, 695, 699, 703, 707, 711, 715 and 719.

Please amend the paragraph on page 19, lines 29-38, as follows:

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A further aspect of the invention is directed to compounds of SEQ NO 2_E , 3_E , 4_E , 5_E , 6_S , 7_S ; 8_E , 9_E , 10_E , 11_E , 12_E , 13_E , 14_E , 15_E , (SEQ ID NO: 203) 16_E , 17_E , 18_E , 19_E , 20_E , 21_E , 22_E , 23_E ; 24_E , 25_E , 26_E , 27_E , 28_E , 29_E , 30_E , 31_E , 32_E , 33_E , 34_E , 35_E , 36_E , 37_S , 38_E , 39_E , 40_E , 41_E , 42_E , 43_E , 44_E , 45_E , 46_E , 47_E , 48_E , 49_E , 50_E , 51_E , 52_E , 53_E , 54_E , 55_E , 56_E , 57_E , 58_E , 59_E , 60_E , 61_E ; 62_E , 63_E , 64_E , 65_E , 66_E , 67_E , 68_E , 69_E , 70_E , 71_E , 72_E , 73_E , 74_E , 75_E , 76_E , 77_E , 78_E , 79_E , 80_E , 81_E , 82_E , 83_E , 84_E , 85_E , 86_E , 87_E , 88_E , 89_E , 90_E , 91_E , 92_E , 93_E , 94_E , 95_E , 96_E , 97_E , 98_E , 99_E , 100_E , 101_E , 102_E , 103_E , 104_E , 105_E , 106_E , 107_E , 108_E , 109_E , 101_E , 102_E , 103_E , 104_E , 105_E , 106_E , 117_E , 118_E , 119_E , 120_E , 121_E , 122_E , 123_E , 124_E , 125_E , 126_E , 127_E , 128_E , 129_E , 130_E , 131_E , 132_E , 133_E , 134_E , 135_E , 136_E , 137_E , 138_E , 139_E , 140_E , 141_E , 142_E , 143_E , 143_E , 144_E , 143_E , 144_E , 143_E , 144_E , 144

Please amend the paragraph on page 23 line 26 to page 24, line 12 as follows:

In a suitable embodiment, the subsequence is SEQ ID NO: 147 2a. In a suitable embodiment, the subsequence is SEQ ID NO: 151 3a. In a suitable embodiment, the subsequence is SEQ ID NO: 159 5a. In a suitable embodiment, the subsequence is SEQ ID NO: 163 6a. In a suitable embodiment, the subsequence is SEQ ID NO: 167 7a. In a suitable embodiment, the subsequence is SEQ ID NO: 171 8a. In a suitable embodiment, the subsequence is SEQ ID NO: 175 9a. In a suitable embodiment, the subsequence is SEQ ID NO: 179 10a. In a suitable embodiment, the subsequence is SEQ ID NO: 183 11a. In a suitable embodiment, the subsequence is SEQ ID NO: 191 13a. In a suitable embodiment, the subsequence is SEQ ID NO: 191 13a. In a suitable embodiment, the subsequence is SEQ ID NO: 191 13a. In a suitable embodiment, the subsequence is SEQ ID NO: 191 13a. In a suitable embodiment, the subsequence is SEQ ID NO: 191 13a. In a suitable embodiment, the subsequence is SEQ ID NO: 191 13a. In a suitable embodiment, the subsequence is SEQ ID NO: 191 13a. In a suitable embodiment, the subsequence is SEQ ID NO: 612 118a. In a suitable embodiment, the subsequence is SEQ ID NO: 612 118a. In a suitable embodiment, the subsequence is SEQ ID NO: 612 118a. In a suitable embodiment, the subsequence is SEQ ID NO: 610 119a. In a suitable embodiment, the subsequence is SEQ ID NO: 610 119a. In a suitable embodiment, the subsequence is SEQ ID NO: 610 119a. In a suitable embodiment, the subsequence is SEQ ID NO: 610 119a. In a suitable embodiment, the subsequence is SEQ ID NO: 610 119a. In a suitable embodiment, the subsequence is SEQ ID NO: 610 119a. In a suitable embodiment, the subsequence is SEQ ID NO: 610 119a. In a suitable embodiment, the subsequence is SEQ ID NO: 610 119a. In a suitable embodiment, the subsequence is SEQ ID NO: 610 119a. In a suitable embodiment, the subsequence is SEQ ID NO: 610 119a. In a suitable embodiment, the subsequence is SEQ ID NO: 610 119a. In a suitable embodiment, the subsequence is SEQ ID NO: 610 119a. In a suitable embodimen

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ID NO: 624-121a. In a suitable embodiment, the subsequence is SEQ ID NO: 628 122a. In a suitable embodiment, the subsequence is SEQ ID NO: 632 123a. In a suitable embodiment, the subsequence is SEQ ID NO: 636 124a. In a suitable embodiment, the subsequence is SEQ ID NO: 640 125a. In a suitable embodiment, the subsequence is SEQ ID NO: 644 126a. In a suitable embodiment, the subsequence is SEQ ID NO: 648 127a. In a suitable embodiment, the subsequence is SEQ ID NO: 652 128a. In a suitable embodiment, the subsequence is SEQ ID NO: 656 129a. In a suitable embodiment, the subsequence is SEQ ID NO: 660 130a. In a suitable embodiment, the subsequence is SEQ ID NO: 664 131a. In a suitable embodiment, the subsequence is SEQ ID NO: 668 132a. In a suitable embodiment, the subsequence is SEQ ID NO: 672 133a. In the immediately aforementioned individual suitable embodiments wherein the subsequence is one selected from SEQ ID NOS: 2a-144a-148, 152, 156, 160, <u>164, 168, 172, 176, 180, 184, 188, 192, 196, 200, 205, 209, 213, 217, 221, 225, 229, 233, </u> 237, 241, 245, 249, 253, 257, 261, 265, 269, 273, 277, 281, 285, 289, 293, 297, 301, 305, <u>309, 313, 317, 321, 325, 329, 333, 337, 341, 345, 349, 353, 357, 361, 365, 369, 373, 377, </u> 381, 385, 389, 393, 397, 401, 405, 409, 413, 417, 421, 425, 429, 433, 437, 441, 445, 449, <u>453, 457, 461, 465, 469, 473, 477, 481, 485, 489, 493, 497, 501, 505, 509, 513, 517, 521, </u> <u>525, 529, 533, 537, 541, 545, 549, 553, 557, 561, 565, 569, 573, 577, 581, 585, 589, 593, </u> <u>597, 601, 605, 609, 613, 617, 621, 625, 629, 633, 637, 641, 645, 649, 653, 657, 661, 665, </u> 669, 673, 677, 681, 685, 689, 693, 697, 701, 705, 709, 713 and 717, the 3' end LNA of the subsequence may suitably be replaced by the corresponding nucleotide.

Please amend the paragraph on page 24 line 21 to page 25, line 9, as follows:

In a suitable embodiment, the compound consists of SEQ ID NO: 147 2a. In a suitable embodiment, the compound consists of SEQ ID NO: 151 3a. In a suitable embodiment, the compound consists of SEQ ID NO: 155 4a. In a suitable embodiment, the compound consists of SEQ ID NO: 159 5a. In a suitable embodiment, the compound consists of SEQ ID NO: 163 6a. In a suitable embodiment, the compound consists of SEQ ID NO: 167 7a. In a suitable

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embodiment, the compound consists of SEQ ID NO: 171 &a. In a suitable embodiment, the compound consists of SEQ ID NO: 175 9a. In a suitable embodiment, the compound consists of SEQ ID NO: 179 10a. In a suitable embodiment, the compound consists of SEQ ID NO: 183 11a. In a suitable embodiment, the compound consists of SEQ ID NO: 187 12a. In a suitable embodiment, the compound consists of SEQ ID NO: 191 13a. In a suitable embodiment, the compound consists of SEQ ID NO: 195 14a. In a suitable embodiment, the compound consists of SEQ ID NO: 199 15a. In a suitable embodiment, the compound consists of SEO ID NO: 608 117a. In a suitable embodiment, the compound consists of SEO ID NO: 612 118a. In a suitable embodiment, the compound consists of SEQ ID NO: 616 119a. In a suitable embodiment, the compound consists of SEQ ID NO: 620 120a. In a suitable embodiment, the compound consists of SEQ ID NO: 624 121a. In a suitable embodiment, the compound consists of SEQ ID NO: 628 122a. In a suitable embodiment, the compound consists of SEQ ID NO: 632 123a. In a suitable embodiment, the compound consists of SEQ ID NO: 636 124a. In a suitable embodiment, the compound consists of SEQ ID NO: 640 125a. In a suitable embodiment, the compound consists of SEQ ID NO: 644 126a. In a suitable embodiment, the compound consists of SEQ ID NO: 648 127a. In a suitable embodiment, the compound consists of SEO ID NO: 652 128a. In a suitable embodiment, the compound consists of SEQ ID NO: 656 129a. In a suitable embodiment, the compound consists of SEQ ID NO: 660 130a. In a suitable embodiment, the compound consists of SEQ ID NO: 664 131a. In a suitable embodiment, the compound consists of SEQ ID NO: 668 132a. In a suitable embodiment, the compound consists of SEQ ID NO: 672 133a. In the immediately aforementioned individual suitable embodiments wherein the compound is one selected from SEQ ID NOS: 2a-144a-147, 151, 155, 159, 163, 167, 171, 175, 179, 183, 187, 191, 195, 199, 204, 208, 212, 216, 220, 224, 228, 232, 236, 240, 244, 248, 252, 256, 260, 264, 268, 272, 276, 280, 284, 288, 292, 296, 300, 304, 308, 312, 316, 320, 324, 328, 332, 336, 340, 344, 348, 352, 356, 360, 364, 368, 372, 376, 380, 384, 388, 392, 396, 400, 404, 408, 412, 416, 420, 424, 428, 432, 436, 440, 444, 448, 452, 456, 460, 464, 468, 472, 476, 480, 484, 488, 492, 496, 500, 504, 508, 512, 516, 520, 524, 528, 532,

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536, 540, 544, 548, 552, 556, 560, 564, 568, 572, 576, 580, 584, 588, 592, 596, 600, 604, 608, 612, 616, 620, 624, 628, 632, 636, 640, 644, 648, 652, 656, 660, 664, 668, 672, 676, 680, 684, 688, 692, 696, 700, 704, 708, 712 and 716, the 3' end LNA of the compound may suitably be replaced by the corresponding nucleotide.

Please amend the paragraph on page 63 lines 8-15 as follows:

205113, Qiagen) according to the manufacturers instructions. For each sample 0.5 μg total RNA was adjusted to 12 μl each with RNase free H₂O and mixed with 2 μl poly (dT)₁₂₋₁₈ (SEQ ID NO: 741)(2.5 μg/ml) (Life Technologies, GibcoBRL, Roskilde, DK), 2 μl dNTP mix (5 mM each dNTP), 2 μl 10x Buffer RT, 1 μl RNAguardTMRnase INHIBITOR (33.3U/ml), (cat# 27-0816-01, Amersham Pharmacia

First strand synthesis was performed using OmniScript Reverse Transcriptase kit (cat#

Biotech, Hørsholm, DK) and 1 μ l OmniScript Reverse Transcriptase (4 U/ μ l) followed by incubation at 37°C for 60 minutes and heat inactivation of the enzyme at 93°C for 5 minutes.

Please amend the paragraph on page 64 lines 9-18, as follows:

For human Survivin the PCR primers were:

Assay 1

forward primer: 5' caggtccccgctttctttg 3' (SEQ ID NO: 727) (final concentration in the assay; 0.6 μM)

reverse primer: 5' ggaggagggcgaatcaaa 3' (SEQ ID NO: 728) (final concentration in the assay; 0.6 μM) and the PCR probe was: 5' FAM- ccatcatcttacgccagacttcagcc-TAMRA 3' (SEQ ID NO: 729) (final concentration in the assay; 0.1 μM) Assay 2 forward primer: 5' aaggaccaccgcatctctaca 3' (SEQ ID NO: 730) (final concentration in the assay; 0.9 μM)

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reverse primer: 5' ccaagtctggctcgttctcagt 3' (SEQ ID NO: 731) (final concentration in the assay; 0.6 μM) and the PCR probe was: 5' FAM- cgaggctggcttcatccactgcc -TAMRA 3'(SEQ ID NO: 732) (final concentration in the assay; 0.1 μM)

Please amend the paragraph on page 64 lines 27-31, as follows:

For quantification of mouse GAPDH mRNA the following primers and probes were designed: Sense primer 5'aaggctgtgggcaaggtcatc 3' (SEQ ID NO: 733)(0.3 µM final concentration),

antisense primer 5' gtcagatccacgacggacacatt (SEQ ID NO: 734) (0.6 µM final concentration), TaqMan probe 5' FAM-gaagctcactggcatggcatggcattggcttccgtgttc-TAMRA 3' (SEQ ID NO: 735) (0.2 µM final concentration).

Please amend the paragraph on page 65 lines 7-13, as follows:

Northern blot analysis was carried out by procedures well known in the art essentially as described in Current Protocols in Molecular Biology, John Wiley & Sons.

The hybridisation probe was obtained by PCR-amplification of a 373 bp fragment from 1 μ l cDNA obtained by reverse transcription PCR. The reaction was carried out using primers 5' agcacaaagccattctaagtcattg 3' (SEQ ID NO: 736) (forward) and 5' tccatcatcttacgccagacttc 3' (SEQ ID NO: 737) (reverse) at 0,5 μ M final concentration each, 200 nM each dNTP, 1,5 mM MgCl₂ and Platinum Taq DNA polymerase (Invitrogen cat. no. 10966-018).

Please amend the paragraph on page 66 lines 6-11, as follows:

Equality of RNA sample loading was assessed by stripping the blot in 0,5% SDS in H₂O at 85°C and reprobing with a labelled GAPDH (glyceraldehyde-3-phosphate dehydrogenase)

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probe obtained essentially as described above using the primers 5' aacggatttggtcgtatt 3' (SEQ ID NO: 739) (forward) and 5' taagcagttggtggtgca 3' (SEQ ID NO: 740) (reverse). See figure 2 and 3. Intensity was monitored with phosphoimager Biorad, FX-scanner (see below). The tested oligomeric compounds are presented in Example 10.

Please amend Table 1 starting on page 67, as follows:

Table 1 Oligomeric compounds of the invention

Oligomeric compounds were evaluated for their potential to knockdown Survivin mRNA in 15PC3 cells. The data are presented as percentage downregulation relative to mock transfected cells. Transcript steady state was monitored by Real-time PCR and normalised to the GAPDH transcript steady state. Note that all LNA C are 5'-Methyl-Cytosine.

Target site	SEQ ID <u>NO:</u>	Oligomeric compound Sequence 5'-3'	Seq ID+ Design	Specific design of Oligomeric compound Capital letters β-D-oxy-LNA S= phosphorthioate Θ=-O-P(O) ₂ -O- Small letters DNA sugar	% Inhibi-tion at 25 nM	% Inhibi-tion at 5 nM oligo
172	2	GCAGTGGATGAAGCCA	2A 147	$\mathbf{G_{S}C_{S}A_{S}G_{S}t_{S}g_{S}g_{S}a_{S}t_{S}g_{S}a_{S}a_{S}G_{S}C_{S}C_{S}A}$	85	44
			2B 148	$G_sC_sA_sG_st_sg_sg_sa_st_sg_sa_sa_sG_sC_sC_sa$	91	
			2C 149	$\begin{bmatrix} \mathbf{G_O} \mathbf{C_O} \mathbf{A_O} \mathbf{G_O} \mathbf{t_S} \mathbf{g_S} \mathbf{g_S} \mathbf{a_S} \mathbf{t_S} \mathbf{g_S} \mathbf{a_S} \mathbf{a_S} \mathbf{a_S} \mathbf{G_O} \mathbf{C_O} \\ \mathbf{C_O} \mathbf{A} \end{bmatrix}$		
			2 D 150	$g_s c_s a_s g_s t_s g_s g_s a_s t_s g_s a_s a_s g_s c_s c_s a$		
198	3	GCCAAGTCTGGCTCGT	3A 151	$G_{\mathbf{s}}C_{\mathbf{s}}C_{\mathbf{s}}A_{\mathbf{s}}a_{\mathbf{s}}g_{\mathbf{s}}t_{\mathbf{s}}c_{\mathbf{s}}t_{\mathbf{s}}g_{\mathbf{s}}g_{\mathbf{s}}c_{\mathbf{s}}T_{\mathbf{s}}C_{\mathbf{s}}G_{\mathbf{s}}T$	49	
1			3B 152	$G_{\mathbf{s}}C_{\mathbf{s}}C_{\mathbf{s}}A_{\mathbf{s}}a_{\mathbf{s}}g_{\mathbf{s}}t_{\mathbf{s}}c_{\mathbf{s}}t_{\mathbf{s}}g_{\mathbf{s}}g_{\mathbf{s}}c_{\mathbf{s}}T_{\mathbf{s}}C_{\mathbf{s}}G_{\mathbf{s}}t$		
			3 C 153	$\begin{array}{c} \mathbf{G_O}\mathbf{C_O}\mathbf{A_O}\mathbf{a_S}\mathbf{g_S}\mathbf{t_S}\mathbf{c_S}\mathbf{t_S}\mathbf{g_S}\mathbf{g_S}\mathbf{c_S}\mathbf{T_O}\mathbf{C_O} \\ \mathbf{G_O}\mathbf{T} \end{array}$		
			3 D 154	$g_sc_sc_sa_sa_sg_st_sc_st_sg_sg_sc_st_sc_sg_st$		
206	4	AACACTGGGCCAAGTC	4 A 155	$\mathbf{A_s}\mathbf{A_s}\mathbf{C_s}\mathbf{A_s}\mathbf{c_s}\mathbf{t_s}\mathbf{g_s}\mathbf{g_s}\mathbf{g_s}\mathbf{g_s}\mathbf{c_s}\mathbf{c_s}\mathbf{a_s}\mathbf{A_s}\mathbf{G_s}\mathbf{T_s}\mathbf{C}$	74	

			4B 156	$A_{\mathbf{S}}A_{\mathbf{S}}C_{\mathbf{S}}A_{\mathbf{S}}c_{\mathbf{S}}t_{\mathbf{S}}g_{\mathbf{S}}g_{\mathbf{S}}g_{\mathbf{S}}c_{\mathbf{S}}c_{\mathbf{S}}a_{\mathbf{S}}A_{\mathbf{S}}G_{\mathbf{S}}T_{\mathbf{S}}c$	91	
			4 C 157	$\begin{array}{c} \mathbf{A_O} \mathbf{A_O} \mathbf{C_O} \mathbf{A_O} \mathbf{c_S} \mathbf{t_S} \mathbf{g_S} \mathbf{g_S} \mathbf{g_S} \mathbf{c_S} \mathbf{c_S} \mathbf{a_S} \mathbf{A_O} \mathbf{G_O} \\ \mathbf{T_O} \mathbf{C} \end{array}$		
-			4D 158	$a_{S}a_{S}c_{S}a_{S}c_{S}t_{S}g_{S}g_{S}g_{S}c_{S}c_{S}a_{S}a_{S}g_{S}t_{S}c$		
214	5	GCAGAAGAAACACTGG	5A 159	$G_{\mathbf{S}}C_{\mathbf{S}}A_{\mathbf{S}}G_{\mathbf{S}}a_{\mathbf{S}}a_{\mathbf{S}}a_{\mathbf{S}}a_{\mathbf{S}}a_{\mathbf{S}}a_{\mathbf{S}}a_{\mathbf{S}}c_{\mathbf{S}}a_{\mathbf{S}}C_{\mathbf{S}}T_{\mathbf{S}}G_{\mathbf{S}}G$	67	
			5B 160	$G_{\mathbf{S}}C_{\mathbf{S}}A_{\mathbf{S}}G_{\mathbf{S}}a_{\mathbf{S}}a_{\mathbf{S}}a_{\mathbf{S}}a_{\mathbf{S}}a_{\mathbf{S}}a_{\mathbf{S}}a_{\mathbf{S}}c_{\mathbf{S}}a_{\mathbf{S}}C_{\mathbf{S}}T_{\mathbf{S}}G_{\mathbf{S}}g$		
			5 C 161	$\begin{array}{c} \mathbf{G_O C_O A_O G_O a_s a_s g_s a_s a_s a_s c_s a_s C_O T_O} \\ \mathbf{G_O G} \end{array}$		
			5D 162	$g_{S} c_{S} a_{S} g_{S} a_{S} a_{S} g_{S} a_{S} a_{S} a_{S} a_{S} a_{S} a_{S} c_{S} a_{S} c_{S} t_{S} g_{S} g$		
216	6	AAGCAGAAGAAACACT	6A 163	$\mathbf{A_{S}A_{S}G_{S}C_{S}}\mathbf{a_{S}}\mathbf{g_{S}}\mathbf{a_{S}}\mathbf{a_{S}}\mathbf{g_{S}}\mathbf{a_{S}}\mathbf{a_{S}}\mathbf{a_{S}}\mathbf{a_{S}}\mathbf{a_{S}}\mathbf{a_{S}}\mathbf{a_{S}}\mathbf{a_{S}}\mathbf{C_{S}}\mathbf{A_{S}}\mathbf{C_{S}}\mathbf{T}$	88	63
			6B 164	$\mathbf{A_{S}A_{S}G_{S}C_{S}}\mathbf{a_{S}}\mathbf{g_{S}}\mathbf{a_{S}}\mathbf{a_{S}}\mathbf{g_{S}}\mathbf{a_{S}}\mathbf{a_{S}}\mathbf{a_{S}}\mathbf{a_{S}}\mathbf{a_{S}}\mathbf{a_{S}}\mathbf{a_{S}}\mathbf{a_{S}}\mathbf{A_{S}}\mathbf{C_{S}}\mathbf{t}$	79	
			6 C 165	$\begin{array}{c} \mathbf{A_O A_O G_O C_O a_s g_s a_s a_s g_s a_s a_s a_s C_O A_O} \\ \mathbf{C_O T} \end{array}$		
			6D 166	$a_{\mathbf{S}}a_{\mathbf{S}}g_{\mathbf{S}}c_{\mathbf{S}}a_{\mathbf{S}}g_{\mathbf{S}}a_{\mathbf{S}}a_{\mathbf{S}}g_{\mathbf{S}}a_{\mathbf{S}}a_{\mathbf{S}}a_{\mathbf{S}}a_{\mathbf{S}}a_{\mathbf{S}}c_{\mathbf{S}}a_{\mathbf{S}}c_{\mathbf{S}}t_{\mathbf{S}}$		
238	7	CTCCCAGCCTTCCAGC	7A 167	$C_{\mathbf{S}}T_{\mathbf{S}}C_{\mathbf{S}}C_{\mathbf{S}}c_{\mathbf{S}}a_{\mathbf{S}}g_{\mathbf{S}}c_{\mathbf{S}}c_{\mathbf{S}}t_{\mathbf{S}}t_{\mathbf{S}}c_{\mathbf{S}}C_{\mathbf{S}}A_{\mathbf{S}}G_{\mathbf{S}}C$	26	
			7B 168	$C_{\mathbf{S}}T_{\mathbf{S}}C_{\mathbf{S}}C_{\mathbf{S}}c_{\mathbf{S}}a_{\mathbf{S}}g_{\mathbf{S}}c_{\mathbf{S}}c_{\mathbf{S}}t_{\mathbf{S}}t_{\mathbf{S}}c_{\mathbf{S}}C_{\mathbf{S}}A_{\mathbf{S}}G_{\mathbf{S}}c$		
			7C 169	$\begin{array}{c} \mathbf{C_OT_OC_OC_Sa_Sg_Sc_Sc_St_St_Sc_SC_OA_OG} \\ \mathbf{O^C} \end{array}$		
			7D 170	$c_{\mathbf{S}}t_{\mathbf{S}}c_{\mathbf{S}}c_{\mathbf{S}}c_{\mathbf{S}}a_{\mathbf{S}}g_{\mathbf{S}}c_{\mathbf{S}}c_{\mathbf{S}}t_{\mathbf{S}}t_{\mathbf{S}}c_{\mathbf{S}}c_{\mathbf{S}}a_{\mathbf{S}}g_{\mathbf{S}}c$		
403	8	TTCTTTCTTATTG	8A 171	$T_{\mathbf{S}}T_{\mathbf{S}}C_{\mathbf{S}}T_{\mathbf{S}}t_{\mathbf{S}}t_{\mathbf{S}}c_{\mathbf{S}}t_{\mathbf{S}}t_{\mathbf{S}}c_{\mathbf{S}}t_{\mathbf{S}}t_{\mathbf{S}}A_{\mathbf{S}}T_{\mathbf{S}}T_{\mathbf{S}}G$	62	
			8B 172	$\mathbf{T_sT_sC_sT_s}\mathbf{t_s}\mathbf{t_s}\mathbf{c_s}\mathbf{t_s}\mathbf{t_s}\mathbf{c_s}\mathbf{t_s}\mathbf{t_s}\mathbf{c_s}\mathbf{t_s}\mathbf{t_s}\mathbf{A_s}\mathbf{T_sT_s}\mathbf{g}$		
			8C 173	$T_{\mathbf{O}}T_{\mathbf{O}}C_{\mathbf{O}}T_{\mathbf{O}}t_{\mathbf{s}}t_{\mathbf{s}}c_{\mathbf{s}}t_{\mathbf{s}}t_{\mathbf{s}}c_{\mathbf{s}}t_{\mathbf{s}}t_{\mathbf{s}}A_{\mathbf{O}}T_{\mathbf{O}}T_{\mathbf{O}}$		
			8 D 174	$t_{s}t_{s}c_{s}t_{s}t_{s}c_{s}t_{s}t_{s}c_{s}t_{s}t_{s}c_{s}t_{s}t_{s}a_{s}t_{s}t_{s}g$		
491	9	TGGGACCAGGCAGCTC	9A	$T_{\mathbf{s}}G_{\mathbf{s}}G_{\mathbf{s}}G_{\mathbf{s}}a_{\mathbf{s}}c_{\mathbf{s}}c_{\mathbf{s}}a_{\mathbf{s}}g_{\mathbf{s}}g_{\mathbf{s}}g_{\mathbf{s}}c_{\mathbf{s}}a_{\mathbf{s}}G_{\mathbf{s}}C_{\mathbf{s}}T_{\mathbf{s}}C$	78	50

Γ	T		175	T	<u> </u>	
			9B 176	$\mathbf{T_{S}G_{S}G_{S}G_{S}a_{S}c_{S}c_{S}a_{S}g_{S}g_{S}c_{S}a_{S}G_{S}C_{S}T_{S}c}$		
			9 C 177	$\begin{array}{c} \mathbf{T_{O}G_{O}G_{O}G_{O}a_{S}c_{S}c_{S}a_{S}g_{S}g_{S}c_{S}a_{S}G_{O}C_{O}} \\ \mathbf{T_{O}C} \end{array}$		
			9 D 178	$t_{s}t_{s}c_{s}t_{s}t_{s}c_{s}t_{s}t_{s}c_{s}t_{s}t_{s}c_{s}t_{s}t_{s}a_{s}t_{s}t_{s}g$		
505	10	TGGTGCAGCCACTCTG	10A 179	$\mathbf{T_sG_sG_sT_s}\mathbf{g_s}\mathbf{c_s}\mathbf{a_s}\mathbf{g_s}\mathbf{c_s}\mathbf{c_s}\mathbf{a_s}\mathbf{c_s}\mathbf{T_s}\mathbf{C_s}\mathbf{T_s}\mathbf{G}$	56	
			10B 180	$\mathbf{T_sG_sG_sT_s}\mathbf{g_s}\mathbf{c_s}\mathbf{a_s}\mathbf{g_s}\mathbf{c_s}\mathbf{c_s}\mathbf{a_s}\mathbf{g_s}\mathbf{c_s}\mathbf{T_s}\mathbf{C_s}\mathbf{T_s}\mathbf{g}$		
			10C 181	$\begin{bmatrix} \mathbf{T_OG_OG_OT_Og_Sc_Sa_Sg_Sc_Sc_Sa_Sc_ST_OC_O} \\ \mathbf{T_OG} \end{bmatrix}$		
			10D 182	$t_{S} g_{S} g_{S} t_{S} g_{S} c_{S} a_{S} g_{S} c_{S} c_{S} a_{S} c_{S} c_{S} a_{S} c_{S} t_{S} g$		
521	11	GAATAAACCCTGGAAG	11A 183	$G_{\mathbf{s}}A_{\mathbf{s}}A_{\mathbf{s}}T_{\mathbf{s}}a_{\mathbf{s}}a_{\mathbf{s}}a_{\mathbf{s}}c_{\mathbf{s}}c_{\mathbf{s}}c_{\mathbf{s}}c_{\mathbf{s}}t_{\mathbf{s}}g_{\mathbf{s}}G_{\mathbf{s}}A_{\mathbf{s}}A_{\mathbf{s}}G$	58	
			11B 184	$\mathbf{G_{S}A_{S}A_{S}T_{S}}\mathbf{a_{S}}\mathbf{a_{S}}\mathbf{a_{S}}\mathbf{a_{S}}\mathbf{c_{S}}\mathbf{c_{S}}\mathbf{c_{S}}\mathbf{c_{S}}\mathbf{c_{S}}\mathbf{d_{S}}\mathbf{G_{S}}\mathbf{A_{S}}\mathbf{A_{S}}\mathbf{g}$		
			11C 185	$\begin{bmatrix} \mathbf{G_O} \mathbf{A_O} \mathbf{A_O} \mathbf{T_O} \mathbf{a_S} \mathbf{a_S} \mathbf{a_S} \mathbf{c_S} \mathbf{c_S} \mathbf{c_S} \mathbf{c_S} \mathbf{t_S} \mathbf{g_S} \mathbf{G_O} \mathbf{A_O} \\ \mathbf{A_O} \mathbf{G} \end{bmatrix}$		
			11D 186	$g_{\mathbf{S}}a_{\mathbf{S}}a_{\mathbf{S}}t_{\mathbf{S}}a_{\mathbf{S}}a_{\mathbf{S}}a_{\mathbf{S}}a_{\mathbf{S}}c_{\mathbf{S}}c_{\mathbf{S}}c_{\mathbf{S}}t_{\mathbf{S}}g_{\mathbf{S}}g_{\mathbf{S}}a_{\mathbf{S}}a_{\mathbf{S}}g$		
531	12	TGGCACCAGGGAATAA	12A 187	$\mathbf{T_{S}G_{S}G_{S}C_{S}}a_{S}c_{S}c_{S}a_{S}g_{S}g_{S}g_{S}a_{S}\mathbf{A_{S}T_{S}A_{S}}\mathbf{A_{S}}$	44	
			12B 188	$T_{\mathbf{s}}G_{\mathbf{s}}G_{\mathbf{s}}C_{\mathbf{s}}a_{\mathbf{s}}c_{\mathbf{s}}c_{\mathbf{s}}a_{\mathbf{s}}g_{\mathbf{s}}g_{\mathbf{s}}g_{\mathbf{s}}g_{\mathbf{s}}a_{\mathbf{s}}A_{\mathbf{s}}T_{\mathbf{s}}A_{\mathbf{s}}a$		
			12C 189	$\begin{bmatrix} \mathbf{T_O} \mathbf{G_O} \mathbf{G_O} \mathbf{C_O} \mathbf{a_S} \mathbf{c_S} \mathbf{c_S} \mathbf{a_S} \mathbf{g_S} \mathbf{g_S} \mathbf{g_S} \mathbf{a_S} \mathbf{A_O} \mathbf{T_O} \\ \mathbf{A_O} \mathbf{A} \end{bmatrix}$		
			12D 190	$t_{S}g_{S}g_{S}c_{S}a_{S}c_{S}c_{S}a_{S}g_{S}g_{S}g_{S}g_{S}a_{S}a_{S}a_{S}a_{S}a_{S}a$		
566	13	CTAAGACATTGCTAAG	13A 191	$C_sT_sA_sA_sg_sa_sc_sa_st_st_sg_sc_sT_sA_sA_sG$	78	
			13B 192	$\mathbf{C_{S}T_{S}A_{S}A_{S}g_{S}a_{S}c_{S}a_{S}t_{S}t_{S}g_{S}c_{S}T_{S}A_{S}A_{S}g}$		
			13C 193	$\begin{array}{c} \mathbf{C_OT_OA_OA_O}\mathbf{g_Sa_Sc_Sa_St_St_Sg_Sc_ST_OA_OA} \\ \mathbf{OG} \end{array}$		
			13D 194	$c_{\mathbf{S}}t_{\mathbf{S}}a_{\mathbf{S}}a_{\mathbf{S}}g_{\mathbf{S}}a_{\mathbf{S}}c_{\mathbf{S}}a_{\mathbf{S}}t_{\mathbf{S}}t_{\mathbf{S}}g_{\mathbf{S}}c_{\mathbf{S}}t_{\mathbf{S}}a_{\mathbf{S}}a_{\mathbf{S}}$		

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579	14	TTGATCTCCTTTCCTA	14A 195	$T_{\mathbf{S}}T_{\mathbf{S}}G_{\mathbf{S}}A_{\mathbf{S}}t_{\mathbf{S}}c_{\mathbf{S}}t_{\mathbf{S}}c_{\mathbf{S}}t_{\mathbf{S}}t_{\mathbf{S}}t_{\mathbf{S}}C_{\mathbf{S}}C_{\mathbf{S}}T_{\mathbf{S}}A$	73	
			14B 196	$T_{\mathbf{S}}T_{\mathbf{S}}G_{\mathbf{S}}A_{\mathbf{S}}t_{\mathbf{S}}c_{\mathbf{S}}t_{\mathbf{S}}c_{\mathbf{S}}t_{\mathbf{S}}t_{\mathbf{S}}t_{\mathbf{S}}t_{\mathbf{S}}C_{\mathbf{S}}C_{\mathbf{S}}T_{\mathbf{S}}a$		
			14C 197	$T_{\mathbf{O}}T_{\mathbf{O}}G_{\mathbf{O}}A_{\mathbf{O}}t_{\mathbf{S}}c_{\mathbf{S}}t_{\mathbf{S}}c_{\mathbf{S}}c_{\mathbf{S}}t_{\mathbf{S}}t_{\mathbf{S}}t_{\mathbf{S}}C_{\mathbf{O}}C_{\mathbf{O}}T$		
			14D 198	$t_s t_s g_s a_s t_s c_s t_s c_s c_s t_s t_s t_s c_s c_s t_s a_s$		
608	15	GCACAGTTGAAACATC	15A 199	$G_{\mathbf{S}}C_{\mathbf{S}}A_{\mathbf{S}}C_{\mathbf{S}}a_{\mathbf{S}}g_{\mathbf{S}}t_{\mathbf{S}}g_{\mathbf{S}}a_{\mathbf{S}}a_{\mathbf{S}}a_{\mathbf{S}}a_{\mathbf{S}}C_{\mathbf{S}}A_{\mathbf{S}}T_{\mathbf{S}}C$	96	93
			15B 200	$G_{\mathbf{s}}C_{\mathbf{s}}A_{\mathbf{s}}C_{\mathbf{s}}a_{\mathbf{s}}g_{\mathbf{s}}t_{\mathbf{s}}t_{\mathbf{s}}g_{\mathbf{s}}a_{\mathbf{s}}a_{\mathbf{s}}a_{\mathbf{s}}C_{\mathbf{s}}A_{\mathbf{s}}T_{\mathbf{s}}c$	89	79
			15C 201	$\begin{bmatrix} \mathbf{G_O} \mathbf{C_O} \mathbf{A_O} \mathbf{C_O} \mathbf{a_S} \mathbf{g_S} \mathbf{t_S} \mathbf{t_S} \mathbf{g_S} \mathbf{a_S} \mathbf{a_S} \mathbf{a_S} \mathbf{c_O} \mathbf{A_O} \\ \mathbf{T_O} \mathbf{C} \end{bmatrix}$		
			15D 202	$g_{S} c_{S} a_{S} c_{S} a_{S} g_{S} t_{S} t_{S} g_{S} a_{S} a_{S} a_{S} a_{S} a_{S} c_{S} a_{S} t_{S} c$		
			15E 203	$G_{\mathbf{S}}C_{\mathbf{S}}A_{\mathbf{S}}c_{\mathbf{S}}a_{\mathbf{S}}g_{\mathbf{S}}t_{\mathbf{S}}t_{\mathbf{S}}g_{\mathbf{S}}a_{\mathbf{S}}a_{\mathbf{S}}a_{\mathbf{S}}C_{\mathbf{S}}A_{\mathbf{S}}T_{\mathbf{S}}c$	83	78
1	16	GATTCAAATCTGGCGG	16A 204	$G_{\mathbf{s}}A_{\mathbf{s}}T_{\mathbf{s}}T_{\mathbf{s}}c_{\mathbf{s}}a_{\mathbf{s}}a_{\mathbf{s}}a_{\mathbf{s}}t_{\mathbf{s}}c_{\mathbf{s}}t_{\mathbf{s}}g_{\mathbf{s}}G_{\mathbf{s}}C_{\mathbf{s}}G_{\mathbf{s}}G$		
			16B 205	$G_{\mathbf{s}}A_{\mathbf{s}}T_{\mathbf{s}}T_{\mathbf{s}}c_{\mathbf{s}}a_{\mathbf{s}}a_{\mathbf{s}}a_{\mathbf{s}}t_{\mathbf{s}}c_{\mathbf{s}}t_{\mathbf{s}}g_{\mathbf{s}}G_{\mathbf{s}}G_{\mathbf{s}}G_{\mathbf{s}}g$		
			16C 206	$\begin{vmatrix} \mathbf{G_O} \mathbf{A_O} \mathbf{T_O} \mathbf{T_O} \mathbf{c_S} \mathbf{a_S} \mathbf{a_S} \mathbf{t_S} \mathbf{c_S} \mathbf{t_S} \mathbf{g_S} \mathbf{G_O} \mathbf{C_O} \\ \mathbf{G_O} \mathbf{G} \end{vmatrix}$		
			16D 207	$g_S a_S t_S t_S c_S a_S a_S a_S t_S c_S t_S g_S g_S c_S g_S g$		
17	17	TGCCAACGGGTCCCGC	17A 208	$T_{\mathbf{s}}G_{\mathbf{s}}C_{\mathbf{s}}C_{\mathbf{s}}a_{\mathbf{s}}a_{\mathbf{s}}c_{\mathbf{s}}g_{\mathbf{s}}g_{\mathbf{s}}g_{\mathbf{s}}t_{\mathbf{s}}c_{\mathbf{s}}C_{\mathbf{s}}C_{\mathbf{s}}G_{\mathbf{s}}C$		
			17B 209	$\mathbf{T_sG_sC_sC_s} \mathbf{a_s} \mathbf{a_s} \mathbf{c_s} \mathbf{g_s} \mathbf{g_s} \mathbf{g_s} \mathbf{t_s} \mathbf{c_s} \mathbf{C_s} \mathbf{C_s} \mathbf{G_s} \mathbf{c}$		
			17C 210	$\begin{vmatrix} \mathbf{T_{O}G_{O}C_{O}C_{O}a_{s}a_{s}c_{s}g_{s}g_{s}g_{s}t_{s}c_{s}C_{O}C_{O}} \\ \mathbf{G_{O}C} \end{vmatrix}$		
			17D 211	$t_{s}g_{s}c_{s}c_{s}a_{s}a_{s}c_{s}g_{s}g_{s}g_{s}g_{s}t_{s}c_{s}c_{s}c_{s}g_{s}g_{s}c$		
33	18	CCGCCGCCACCTC	18A 212	$C_{\mathbf{S}}C_{\mathbf{S}}G_{\mathbf{S}}C_{\mathbf{S}}c_{\mathbf{S}}g_{\mathbf{S}}c_{\mathbf{S}}c_{\mathbf{S}}g_{\mathbf{S}}c_{\mathbf{S}}c_{\mathbf{S}}a_{\mathbf{S}}C_{\mathbf{S}}C_{\mathbf{S}}T_{\mathbf{S}}C$		
			18B 213	$C_{\mathbf{S}}C_{\mathbf{S}}G_{\mathbf{S}}C_{\mathbf{S}}c_{\mathbf{S}}g_{\mathbf{S}}c_{\mathbf{S}}c_{\mathbf{S}}g_{\mathbf{S}}c_{\mathbf{S}}c_{\mathbf{S}}a_{\mathbf{S}}C_{\mathbf{S}}C_{\mathbf{S}}T_{\mathbf{S}}c$		

	1		18C	CoCoCoCoc a c c a c c a CoCo
			214	$\begin{bmatrix} C_{\mathbf{O}}C_{\mathbf{O}}G_{\mathbf{O}}C_{\mathbf{O}}c_{\mathbf{s}}g_{\mathbf{s}}c_{\mathbf{s}}c_{\mathbf{s}}g_{\mathbf{s}}c_{\mathbf{s}}c_{\mathbf{s}}a_{\mathbf{s}}C_{\mathbf{O}}C_{\mathbf{O}} \\ T_{\mathbf{O}}C_{\mathbf{O}$
			ļ _	T _O C
			18D	$c_s c_s g_s c_s c_s g_s c_s c_s g_s c_s c_s a_s c_s c_s t_s c$
L	10	COTOCOCOLOGGATO	215	C.A.T.C
49	19	CGTCGGGGCACCCATG	19A	$\left \begin{array}{c} C_{\mathbf{s}}G_{\mathbf{s}}T_{\mathbf{s}}C_{\mathbf{s}}g_{\mathbf{s}}g_{\mathbf{s}}g_{\mathbf{s}}g_{\mathbf{s}}g_{\mathbf{s}}c_{\mathbf{s}}c_{\mathbf{s}}c_{\mathbf{s}}c_{\mathbf{s}}C_{\mathbf{s}}A_{\mathbf{s}}T_{\mathbf{s}}G \end{array} \right $
	 		216	CCTC
			19B 217	$\left \begin{array}{c} \mathbf{C_s} \mathbf{G_s} \mathbf{T_s} \mathbf{C_s} \mathbf{g_s} \mathbf{g_s} \mathbf{g_s} \mathbf{g_s} \mathbf{g_s} \mathbf{g_s} \mathbf{c_s} \mathbf{a_s} \mathbf{c_s} \mathbf{c_s} \mathbf{C_s} \mathbf{A_s} \mathbf{T_s} \mathbf{g} \end{array} \right $
	 		19C	C. C. T. C. S.
			218	$\begin{bmatrix} \mathbf{C_{O}G_{O}T_{O}C_{O}g_{S}g_{S}g_{S}g_{S}c_{S}a_{S}c_{S}c_{S}C_{O}A_{O}} \end{bmatrix}$
			216	T _O G
			19D	$c_s g_s t_s c_s g_s g_s g_s g_s g_s c_s a_s c_s c_s c_s a_s t_s g$
			219	
65	20	GCCAGGCAGGGGCAA	20A	$G_sC_sC_sA_sg_sg_sg_sg_sg_sg_sG_sC_sA_sA$
			220	
			20B	$G_sC_sC_sA_sg_sg_sg_sg_sg_sg_sG_sC_sA_sa$
	<u> </u>		221	
			20C	$\mid G_{\mathbf{O}}C_{\mathbf{O}}C_{\mathbf{O}}A_{\mathbf{O}}g_{\mathbf{S}}g_{\mathbf{S}}c_{\mathbf{S}}a_{\mathbf{S}}g_{\mathbf{S}}g_{\mathbf{S}}g_{\mathbf{S}}g_{\mathbf{S}}G_{\mathbf{O}}C_{\mathbf{O}}\mid$
			222	A _O A
			20D	$g_S^c_S^c_S^a_Sg_S^c_S^a_Sg_S^c_Sg_S^c_Sg_S^c_S^a_S^a$
			223	98,8,8,89898,8,89898989898,8,8,
81	21	TCCTTGAGAAAGGGCT	21A	$T_sC_sC_sT_st_sg_sa_sg_sa_sa_sg_sG_sG_sC_sT$
			224	3,2,2,2,2,2,2,2,2,2,2,2,2,2,2,2,2,2,2,2
			21B	$T_sC_sC_sT_st_sg_sa_sg_sa_sa_sg_sG_sG_sC_st$
			225	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3
			21C	$T_{\mathbf{O}}C_{\mathbf{O}}C_{\mathbf{O}}T_{\mathbf{O}}t_{\mathbf{S}}g_{\mathbf{S}}a_{\mathbf{S}}g_{\mathbf{S}}a_{\mathbf{S}}a_{\mathbf{S}}a_{\mathbf{S}}g_{\mathbf{S}}G_{\mathbf{O}}G_{\mathbf{O}}$
			226	$ \mathbf{c_0}^{T} $
	ļ		21D	
				$\left \begin{array}{c} t_{s}c_{s}c_{s}t_{s}t_{s}g_{s}a_{s}g_{s}a_{s}a_{s}g_{s}g_{s}g_{s}c_{s}t \end{array} \right $
97	22	TGTAGAGATGCGGTGG	227 22A	TCTAgagatagaCTCC
91	22	TOTAGAGATGCGGTGG	228	$\left \mathbf{T_sG_sT_sA_sg_s} \mathbf{a_sg_s} \mathbf{a_st_sg_s} \mathbf{c_sg_s} \mathbf{G_sT_sG_s} \mathbf{G} \right $
	 		22B	TCTAgagatacaGTCa
	1		229	$\left \mathbf{T_sG_sT_sA_s} \mathbf{g_s} \mathbf{a_sg_s} \mathbf{a_st_sg_s} \mathbf{c_sg_s} \mathbf{G_sT_sG_sg} \right $
	+	 	22C	$T_{\mathbf{O}}G_{\mathbf{O}}T_{\mathbf{O}}A_{\mathbf{O}}g_{\mathbf{S}}a_{\mathbf{S}}g_{\mathbf{S}}a_{\mathbf{S}}t_{\mathbf{S}}g_{\mathbf{S}}c_{\mathbf{S}}g_{\mathbf{S}}G_{\mathbf{O}}T_{\mathbf{O}}$
			230	
	1			GOG
			22D	$t_S g_S t_S a_S g_S a_S g_S a_S t_S g_S c_S g_S g_S t_S g_S g_S$
	1		231	
113	23	AGGGCCAGTTCTTGAA	23A	$A_{\mathbf{S}}G_{\mathbf$
	1		<u>232</u>	

				
			23B 233	$A_{\mathbf{S}}G_{\mathbf{S}}G_{\mathbf{S}}G_{\mathbf{S}}G_{\mathbf{S}}G_{\mathbf{S}}G_{\mathbf{S}}G_{\mathbf{S}}G_{\mathbf{S}}G_{\mathbf{S}}G_{\mathbf{S}}G_{\mathbf{S}}G_{\mathbf{S}}G_{\mathbf{S}}G_{\mathbf{S}}G_{\mathbf{S}}A_{\mathbf{S}}a$
	+-		23C	A C C C C O C O C C + C + C + C - A
			1	$\left \begin{array}{c} \mathbf{A_O} \mathbf{G_O} \mathbf{G_O} \mathbf{G_O} \mathbf{c_S} \mathbf{c_S} \mathbf{a_S} \mathbf{g_S} \mathbf{t_S} \mathbf{t_S} \mathbf{c_S} \mathbf{t_S} \mathbf{T_O} \mathbf{G_O} \mathbf{A} \end{array} \right $
			234	OA
			23D	$a_s g_s g_s g_s c_s c_s a_s g_s t_s t_s c_s t_s t_s g_s a_s a_s$
			235	
129	24	GCGCAGCCCTCCAAGA	24A	$G_sC_sG_sC_sa_sg_sc_sc_sc_st_sc_sc_sA_sA_sG_sA$
			<u>236</u>	
			24B	$G_sC_sG_sC_sa_sg_sc_sc_sc_st_sc_sc_sA_sA_sG_sa$
			<u>237</u>	
			24C	$G_{\mathbf{O}}C_{\mathbf{O}}G_{\mathbf{O}}C_{\mathbf{O}}a_{\mathbf{S}}g_{\mathbf{S}}c_{\mathbf{S}}c_{\mathbf{S}}c_{\mathbf{S}}t_{\mathbf{S}}c_{\mathbf{S}}c_{\mathbf{S}}A_{\mathbf{O}}A_{\mathbf{O}}$
			238	G _O A
			24D	$g_s c_s g_s c_s a_s g_s c_s c_s c_s c_s c_s c_s a_s a_s g_s a$
			<u>239</u>	
145	25	CCGCTCCGGGGTGCAG	25A	$C_sC_sG_sC_st_sc_sc_sg_sg_sg_st_sG_sC_sA_sG$
İ			240	
			25B	$C_sC_sG_sC_st_sc_sc_sg_sg_sg_st_sG_sC_sA_sg$
			241	3 3 3 3 3 3 3 3 3 3 3 3
	1		25C	$C_{\mathbf{O}}C_{\mathbf{O}}G_{\mathbf{O}}C_{\mathbf{O}}C_{\mathbf{S}}C_{\mathbf{S}}C_{\mathbf{S}}G_{\mathbf{S}}G_{\mathbf{S}}G_{\mathbf{S}}G_{\mathbf{S}}G_{\mathbf{S}}G_{\mathbf{O}}C_{\mathbf{O}}$
			242	A _O G
			25D	c _s c _s g _s c _s t _s c _s c _s g _s g _s g _s g _s t _s g _s c _s a _s g
			243	
161	26	AGCCAGCCTCGGCCAT	26A	$A_sG_sC_sC_sa_sg_sc_sc_st_sc_sg_sg_sC_sC_sA_sT$
			244	
			26B	$A_sG_sC_sC_sa_sg_sc_sc_st_sc_sg_sg_sC_sC_sA_st$
			245	
			26C	$\mathbf{A_O}\mathbf{G_O}\mathbf{C_O}\mathbf{C_O}\mathbf{a_S}\mathbf{g_S}\mathbf{c_S}\mathbf{c_S}\mathbf{t_S}\mathbf{c_S}\mathbf{g_S}\mathbf{g_S}\mathbf{C_O}\mathbf{C_O}$
			<u>246</u>	$A_{\mathbf{O}}T$
<u> </u>	┼──		26D	
			247	$\begin{bmatrix} a_{S} g_{S} c_{S} c_{S} g_{S} g_{S} c_{S} c_{S} g_{S} g_{S} c_{S} c_{S} a_{S} t \\ \end{bmatrix}$
177	27	GTGGGCAGTGGATGA	27A	CTCCaaaaaaaaATCA
'''	"	GIGGGGAGIGGAIGA	1	$G_{\mathbf{S}}T_{\mathbf{S}}G_{\mathbf{S}}G_{\mathbf{S}}g_{\mathbf{S}}g_{\mathbf{S}}g_{\mathbf{S}}g_{\mathbf{S}}g_{\mathbf{S}}g_{\mathbf{S}}g_{\mathbf{S}}g_{\mathbf{S}}A_{\mathbf{S}}T_{\mathbf{S}}G_{\mathbf{S}}A$
	 		248 27B	CTCCccccATCc
			249	$G_{\mathbf{S}}T_{\mathbf{S}}G_{\mathbf{S}}G_{\mathbf{S}}g_{\mathbf{S}}g_{\mathbf{S}}c_{\mathbf{S}}a_{\mathbf{S}}g_{\mathbf{S}}t_{\mathbf{S}}g_{\mathbf{S}}g_{\mathbf{S}}A_{\mathbf{S}}T_{\mathbf{S}}G_{\mathbf{S}}a$
			27C	$G_{\mathbf{O}}T_{\mathbf{O}}G_{\mathbf{O}}G_{\mathbf{O}}g_{\mathbf{S}}g_{\mathbf{S}}c_{\mathbf{S}}a_{\mathbf{S}}g_{\mathbf{S}}t_{\mathbf{S}}g_{\mathbf{S}}g_{\mathbf{S}}A_{\mathbf{O}}T_{\mathbf{O}}$
			<u>250</u>	
_	<u> </u>		ļ	G _O A
			27D	$g_St_Sg_Sg_Sg_Sg_Sg_Sc_Sa_Sg_St_Sg_Sg_Sa_St_Sg_Sa$
			251	

193	28	GTCTGGCTCGTTCTCA	28A	$\boxed{G_{\mathbf{S}}T_{\mathbf{S}}C_{\mathbf{S}}T_{\mathbf{S}}g_{\mathbf{S}}g_{\mathbf{S}}c_{\mathbf{S}}t_{\mathbf{S}}c_{\mathbf{S}}g_{\mathbf{S}}t_{\mathbf{S}}t_{\mathbf{S}}C_{\mathbf{S}}T_{\mathbf{S}}C_{\mathbf{S}}\mathbf{A}}$
			252	
			28B	$G_sT_sC_sT_sg_sg_sc_st_sc_sg_st_st_sC_sT_sC_sa$
			253	3 3 3 3050 3 3 505 3 3 3 3
		-	28C	$G_O T_O C_O T_O g_s g_s c_s t_s c_s g_s t_s t_s C_O T_O C$
			254	
			 	OA
			28D	$g_s t_s c_s t_s g_s g_s c_s t_s c_s g_s t_s t_s c_s t_s c_s a$
			255	
209	29	AGAAACACTGGGCCAA	29A	$A_sG_sA_sA_sa_sc_sa_sc_st_sg_sg_sG_sC_sC_sA_sA$
	ļ		<u>256</u>	
			29B	$A_sG_sA_sA_sa_sc_sa_sc_st_sg_sg_sG_sC_sC_sA_sa$
			<u>257</u>	
			29C	$\mathbf{A_O}\mathbf{G_O}\mathbf{A_O}\mathbf{A_O}\mathbf{a_S}\mathbf{c_S}\mathbf{a_S}\mathbf{c_S}\mathbf{t_S}\mathbf{g_S}\mathbf{g_S}\mathbf{g_S}\mathbf{C_O}\mathbf{C_O}$
			258	AOA
	 		200	<u> </u>
			29D	$a_s g_s a_s a_s a_s c_s a_s c_s t_s g_s g_s g_s c_s c_s a_s a_s$
005	20	L COTTO COTTO L L COLLO L	259	
225	30	AGCTCCTTGAAGCAGA	30A	$A_sG_sC_sT_sc_sc_st_st_sg_sa_sa_sg_sC_sA_sG_sA$
	<u> </u>		260	
			30B	$A_sG_sC_sT_sc_sc_st_st_sg_sa_sg_sC_sA_sG_sa$
			<u>261</u>	
			30C	$A_{\mathbf{O}}G_{\mathbf{O}}C_{\mathbf{O}}T_{\mathbf{O}}C_{\mathbf{S}}C_{\mathbf{S}}t_{\mathbf{S}}t_{\mathbf{S}}g_{\mathbf{S}}a_{\mathbf{S}}g_{\mathbf{S}}C_{\mathbf{O}}A_{\mathbf{O}}$
			262	GOA
			30D	$a_s g_s c_s t_s c_s c_s t_s t_s g_s a_s a_s g_s c_s a_s g_s a$
			263	3-3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3
241	31	TGGCTCCCAGCCTTCC	31A	$T_sG_sG_sC_st_sc_sc_sc_sa_sg_sc_sc_sT_sT_sC_sC$
			264	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3
	—		31B	$T_sG_sG_sC_st_sc_sc_sc_sa_sg_sc_sc_sT_sT_sC_sc$
	}		265	9 9 9 9 9 9 9 9 9 9 9 8
			31C	$T_{\mathbf{O}}G_{\mathbf{O}}G_{\mathbf{O}}C_{\mathbf{O}}t_{\mathbf{S}}c_{\mathbf{S}}c_{\mathbf{S}}c_{\mathbf{S}}a_{\mathbf{S}}g_{\mathbf{S}}c_{\mathbf{S}}c_{\mathbf{S}}T_{\mathbf{O}}T_{\mathbf{O}}$
			266	
	ļ		<u> </u>	COC
			31D.	$t_s g_s g_s c_s t_s c_s c_s c_s a_s g_s c_s c_s t_s t_s c_s c$
	ļ		267	
257	32	CTATGGGGTCGTCATC	32A	$C_sT_sA_sT_sg_sg_sg_sg_st_sc_sg_st_sC_sA_sT_sC$
=			<u> 268</u>	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
			32B	$C_sT_sA_sT_sg_sg_sg_sg_st_sc_sg_st_sC_sA_sT_sc$
			<u> 269</u>	
			32C	$C_{\mathbf{O}}T_{\mathbf{O}}A_{\mathbf{O}}T_{\mathbf{O}}g_{\mathbf{S}}g_{\mathbf{S}}g_{\mathbf{S}}t_{\mathbf{S}}c_{\mathbf{S}}g_{\mathbf{S}}t_{\mathbf{S}}C_{\mathbf{O}}A_{\mathbf{O}}$
			270	
				T _O C

			32D	$c_s t_s a_s t_s g_s g_s g_s g_s t_s c_s g_s t_s c_s a_s t_s c$
	 		271	
273	33	TGCTTTTTATGTTCCT	33A 272	$T_sG_sC_sT_st_st_st_st_sa_st_sg_st_sT_sC_sC_sT$
			33B	$T_{\mathbf{s}}G_{\mathbf{s}}C_{\mathbf{s}}T_{\mathbf{s}}t_{\mathbf{s}}t_{\mathbf{s}}t_{\mathbf{s}}t_{\mathbf{s}}t_{\mathbf{s}}a_{\mathbf{s}}t_{\mathbf{s}}g_{\mathbf{s}}t_{\mathbf{s}}T_{\mathbf{s}}C_{\mathbf{s}}C_{\mathbf{s}}t$
		<u> </u>	273	T. C. C. T T. C. C.
			33C	$T_{\mathbf{O}}G_{\mathbf{O}}C_{\mathbf{O}}T_{\mathbf{O}}t_{\mathbf{S}}t_{\mathbf{S}}t_{\mathbf{S}}t_{\mathbf{S}}a_{\mathbf{S}}t_{\mathbf{S}}g_{\mathbf{S}}t_{\mathbf{S}}T_{\mathbf{O}}C_{\mathbf{O}}C$
			<u>274</u>	$\mathbf{O}^{\mathbf{T}}$
-			33D	$t_s g_s c_s t_s t_s t_s t_s t_s t_s a_s t_s g_s t_s t_s c_s c_s t$
	ļ		275	
289	34	AGCGCAACCGGACGAA	34A	$A_{\mathbf{S}}G_{\mathbf{S}}G_{\mathbf{S}}G_{\mathbf{S}}G_{\mathbf{S}}G_{\mathbf{S}}G_{\mathbf{S}}G_{\mathbf{S}}G_{\mathbf{S}}G_{\mathbf{S}}G_{\mathbf{S}}G_{\mathbf{S}}G_{\mathbf{S}}A_{\mathbf{S}}A$
			<u>276</u>	
			34B	$A_{\mathbf{s}}G_{\mathbf{s}}C_{\mathbf{s}}G_{\mathbf{s}}C_{\mathbf{s}}a_{\mathbf{s}}a_{\mathbf{s}}C_{\mathbf{s}}C_{\mathbf{s}}g_{\mathbf{s}}g_{\mathbf{s}}a_{\mathbf{s}}C_{\mathbf{s}}G_{\mathbf{s}}A_{\mathbf{s}}a$
			277	
			34C	$A_{\mathbf{O}}G_{\mathbf{O}}G_{\mathbf{O}}G_{\mathbf{O}}G_{\mathbf{S}}a_{\mathbf{S}}a_{\mathbf{S}}G_{\mathbf{S}}G_{\mathbf{S}}g_{\mathbf{S}}g_{\mathbf{S}}a_{\mathbf{S}}G_{\mathbf{O}}G_{\mathbf{O}}$
			<u>278</u>	A _O A
			34D	$a_s g_s c_s g_s c_s a_s a_s c_s c_s g_s g_s a_s c_s g_s a_s a_s$
			<u>279</u>	
305	35	TCTTGACAGAAAGGAA	35A	$T_sC_sT_sT_sg_sa_sc_sa_sg_sa_sa_sa_sG_sG_sA_sA$
			280	
			35B	$T_sC_sT_sT_sg_sa_sc_sa_sg_sa_sa_sG_sG_sA_sa$
	<u> </u>		281	
			35C	$T_{\mathbf{O}}C_{\mathbf{O}}T_{\mathbf{O}}T_{\mathbf{O}}g_{\mathbf{S}}a_{\mathbf{S}}c_{\mathbf{S}}a_{\mathbf{S}}g_{\mathbf{S}}a_{\mathbf{S}}a_{\mathbf{S}}a_{\mathbf{S}}G_{\mathbf{O}}G_{\mathbf{O}}$
			282	$A_{O}A$
			35D	$t_S c_S t_S t_S g_S a_S c_S a_S g_S a_S a_S a_S g_S g_S a_S a_S a_S g_S g_S a_S a_S a_S a_S a_S a_S a_S a_S a_S a$
			283	
321	36	AATTCTTCAAACTGCT	36A	$A_{\mathbf{S}}A_{\mathbf{S}}T_{\mathbf{S}}T_{\mathbf{S}}C_{\mathbf{S}}t_{\mathbf{S}}t_{\mathbf{S}}C_{\mathbf{S}}a_{\mathbf{S}}a_{\mathbf{S}}a_{\mathbf{S}}C_{\mathbf{S}}T_{\mathbf{S}}G_{\mathbf{S}}C_{\mathbf{S}}T$
			284	
			36B	$A_{\mathbf{S}}A_{\mathbf{S}}T_{\mathbf{S}}T_{\mathbf{S}}C_{\mathbf{S}}t_{\mathbf{S}}t_{\mathbf{S}}C_{\mathbf{S}}a_{\mathbf{S}}a_{\mathbf{S}}a_{\mathbf{S}}c_{\mathbf{S}}T_{\mathbf{S}}G_{\mathbf{S}}C_{\mathbf{S}}t$
	<u> </u>		285	
			36C	$A_{\mathbf{O}}A_{\mathbf{O}}T_{\mathbf{O}}T_{\mathbf{O}}C_{\mathbf{S}}t_{\mathbf{S}}t_{\mathbf{S}}C_{\mathbf{S}}a_{\mathbf{S}}a_{\mathbf{S}}a_{\mathbf{S}}C_{\mathbf{S}}T_{\mathbf{O}}G_{\mathbf{O}}C$
			<u>286</u>	OT
			36D	$a_s a_s t_s t_s c_s t_s t_s c_s a_s a_s a_s c_s t_s g_s c_s t$
	<u> </u>		287	
337	37	AAATTCACCAAGGGTT	37A	$A_sA_sA_sT_st_sc_sa_sc_sc_sa_sa_sG_sG_sG_sT_sT$
	ļ		288	
			37B	$A_{\mathbf{S}}A_{\mathbf{S}}A_{\mathbf{S}}T_{\mathbf{S}}t_{\mathbf{S}}c_{\mathbf{S}}a_{\mathbf{S}}c_{\mathbf{S}}c_{\mathbf{S}}a_{\mathbf{S}}a_{\mathbf{S}}G_{\mathbf{S}}G_{\mathbf{S}}G_{\mathbf{S}}T_{\mathbf{S}}t$
			289	

290 ToT 37PD	ſ	T		37C	As As As Totica con a a a Go Co
37D 291 38a 38a CTCTGTCCAGTTTCAA 38A 292 Cs Ts Cs Ts Ests cs Cs as as Ests ts Ts Cs As A 292 294 Cs Ts Cs Ts Ests cs Cs as Ests ts Ts Cs As A 294 Cs Ts Cs Ts Ests cs Cs as Ests ts Ts Cs As A 294 Cs Ts Cs Ts Ests cs Cs as Ests ts Ts Cs As A 294 Cs Ts Cs Ts Ests cs Cs as Ests ts Ts Cs As A 294 Cs Ts Cs Ts Ests cs Cs as Ests ts Ts Cs As A 294 Cs Ts Cs Ts Ests cs Cs as Ests ts Ts Cs As A 294 Cs Ts Cs Ts Ests cs Cs as Ests ts Ts Cs As A 294 Cs Ts Cs Ts Ests cs Ts Ests ts Ests Cs Cs as Ests ts Ts Cs As A 295 Cs Ts Cs Ts Ts T 295 Ts Ts Ts Cs Ts Ts Ts Cs Ts					
291				250	ToT
353 38					$a_s a_s a_s t_s t_s c_s a_s c_s c_s a_s a_s g_s g_s g_s t_s t$
292 38B 293 295 38C CoToCoTogstscscsasgststsToCoA 294 OA 295 CstscstsgstscscsasgststsToCoA 295 CstscstsgstscscsasgstststsToCoA 296 CoToCoTogstscscsasgststsToCoA 296 CstscstsgstscscsasgstststsToCoA 296 CstscstsgstscscssasgstststsToCoA 296 CstscstsgstscscstststsgsgscstscsTsTsT 296 TsTsGsTstscststsgsgscstscsTsTsT 296 TsTsGsTstscststsgsgscstscsTsTsT 297 ToToGoTotscststsgsgscstsCsTsTsT 298 ToToGoTotscststsgsgscstscsTsTst 299 299 299 209 200 20					
38B 293	353	38	CTCTGTCCAGTTTCAA	38A	$C_sT_sC_sT_sg_st_sc_sc_sa_sg_st_st_sT_sC_sA_sA$
293				<u>292</u>	
293 386 294 COTOCOTOEsts cs as gests ts TOCOA OA OA 294 OA OA OA OA OA OA OA O				38B	$C_sT_sC_sT_sg_st_sc_sc_sa_sg_st_st_sT_sC_sA_sa$
294				<u>293</u>	
		ŀ		38C	$C_{\mathbf{O}}T_{\mathbf{O}}C_{\mathbf{O}}T_{\mathbf{O}}g_{s}t_{s}c_{s}c_{s}a_{s}g_{s}t_{s}t_{s}T_{\mathbf{O}}C_{\mathbf{O}}A$
38D 295				<u>294</u>	
295		 		38D	
399					CStSCStSSStSCSCSTStStStStStStSTSTSTST
296 398 39B 297 39C 39B 297 39C 298 07 07 07 07 07 07 07 0	369	39	TTGTTCTTGGCTCTTT		TTGTtcttggctCTTT
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$					
297 39C 298 ToToGoTotscststsgsgscstsCoToT 298 OT 39D tstsgststscststsgsgscstscststst 299 tstsgststscststsgsgscstscststst 299 tstsgststscscstststsgsgscstscststst 299 tstsgststscscstststsgsgscstscststst 299 tstsgststscscstststsgsgscstscststst 299 tstsgststscscstststsgsgscstscststst 299 tstsgststscscstststsgsgscstststst 299 tstsgstststscscstststsgsgscstststst 299 tstsgstststscscstststsgsgscststststsgscstststst		1		+	TTGTtcttggctCTTt
39C 298 ToToGoTotscststsgsgscstsCoToT ToToGoTotscststsgsgscstsCoToT ToToGoTotscststsgsgscstsCoToT ToToGoTotscststsgsgscstscstststststststststststs					
298 OT OT OT STS SEESES STO OT					ToToGoTot c t t g g c t CoToT
39D 299 tstsgststscststsgsgscstscststst 299 tstsgststscststsgsgscstscststst 299 tstsgststscststsgsgscstscststststs 299 tstsgststscstststsgsgscstscststststsgscsAAASTsT 300 40A 300 40B 40B 301 40C 301 40C 302 0T 40D 303 40B 304 40B 305 40B					
385 40 GGTTTCCTTTGCAATT 40A 300 40B 300 40B 301 40C 302 0T 40D 303 40D 305				120	01
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$				1	$t_s t_s g_s t_s t_s c_s t_s t_s g_s g_s c_s t_s c_s t_s t_s t$
300 300					
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	385	40	GGTTTCCTTTGCAATT	1	$ \mathbf{G_s} \mathbf{G_s} \mathbf{T_s} \mathbf{T_s} \mathbf{t_s} \mathbf{c_s} \mathbf{c_s} \mathbf{t_s} \mathbf{t_s} \mathbf{t_s} \mathbf{g_s} \mathbf{c_s} \mathbf{A_s} \mathbf{A_s} \mathbf{T_s} \mathbf{T} $
301 400 400 302 0T 400 303 303 304 400		<u> </u>			
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$				1	$ \mathbf{G_s} \mathbf{G_s} \mathbf{T_s} \mathbf{T_s} \mathbf{t_s} \mathbf{c_s} \mathbf{c_s} \mathbf{t_s} \mathbf{t_s} \mathbf{t_s} \mathbf{g_s} \mathbf{c_s} \mathbf{A_s} \mathbf{A_s} \mathbf{T_s} \mathbf{t} $
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$					
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$				I	$\mid \mathbf{G_OG_OT_OT_Ot_sc_sc_st_st_st_sg_sc_sA_OA_OT} \mid$
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$				302	$T_{\mathbf{O}}$
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$				40D	g_g_t_t_t_c_c_c_t_t_t_g_c_a_a_t_t
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$				303	-3-3 3 3 3 3 3 3 3 3 5 3 5 3 5 5
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	401	41	CTTTCTTCTTATTGTT	+	C _s T _s T _s T _s C _s t _s t _s C _s t _s t _s a _s t _s T _s G _s T _s T
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$				304	3 3 3 3 3 3 3 3 3 3 3 3
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$					C _s T _s T _s T _s c _s t _s t _s c _s t _s t _s a _s t _s T _s G _s T _s t
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$				305	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$				41 C	COTOTOTOCeteteceteteacteTOGOT
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$				<u>306</u>	
		 		410	
417 42 GCAGTTTCCTCAAATT 42A $G_sC_sA_sG_st_st_sc_sc_st_sc_sa_sA_sA_sT_sT$				l i	~\$'\$'\$'\$'\$'\$'\$'\$'\$'\$'\$ ^{\$} \$'\$
	417	42	GCAGTTTCCTCAAATT		G-C-A-G-t-t-c-c-t-c-a-A-A-T-T
. 1 [1308]		_		308	

		 	т	
			42B 309	$G_{\mathbf{S}}C_{\mathbf{S}}A_{\mathbf{S}}G_{\mathbf{S}}t_{\mathbf{S}}t_{\mathbf{S}}t_{\mathbf{S}}c_{\mathbf{S}}c_{\mathbf{S}}t_{\mathbf{S}}c_{\mathbf{S}}a_{\mathbf{S}}A_{\mathbf{S}}A_{\mathbf{S}}T_{\mathbf{S}}t$
	1		42C	$G_{\mathbf{O}}C_{\mathbf{O}}A_{\mathbf{O}}G_{\mathbf{O}}t_{\mathbf{S}}t_{\mathbf{S}}t_{\mathbf{S}}c_{\mathbf{S}}c_{\mathbf{S}}t_{\mathbf{S}}c_{\mathbf{S}}a_{\mathbf{S}}A_{\mathbf{O}}A_{\mathbf{O}}T$
			310	
			<u> </u>	$ o^{T} $
	1		4 2D	$g_s c_s a_s g_s t_s t_s t_s c_s c_s t_s c_s a_s a_s a_s t_s t$
			311	
433	43	ACGGCGCACTTTCTTC	43A	$A_sC_sG_sG_sc_sg_sc_sa_sc_st_st_st_sC_sT_sT_sC$
			312	
,			43B	$\mathbf{A_sC_sG_sG_s}\mathbf{C_s}\mathbf{g_s}\mathbf{c_s}\mathbf{a_s}\mathbf{c_s}\mathbf{t_s}\mathbf{t_s}\mathbf{t_s}\mathbf{C_s}\mathbf{T_s}\mathbf{T_s}\mathbf{t_s}$
			313	
			43C	$\mathbf{A_O}\mathbf{C_O}\mathbf{G_O}\mathbf{G_O}\mathbf{c_S}\mathbf{g_S}\mathbf{c_S}\mathbf{a_S}\mathbf{c_S}\mathbf{t_S}\mathbf{t_S}\mathbf{t_S}\mathbf{t_S}\mathbf{C_O}\mathbf{T_O}\mathbf{T}$
			<u>314</u>	$ _{\mathbf{O}^{\mathbf{C}}}$
	1		125	
			4 3D	$a_{S} c_{S} g_{S} g_{S} c_{S} g_{S} c_{S} a_{S} c_{S} t_{S} t_{S} t_{S} c_{S} t_{S} t_{S} c$
440	1	Local Comporting Limited	315	
449	44	CCAGCTGCTCGATGGC	44A	$C_sC_sA_sG_sc_st_sg_sc_st_sc_sg_sa_sT_sG_sG_sC$
			316	
			44B	$C_sC_sA_sG_sc_st_sg_sc_st_sc_sg_sa_sT_sG_sG_st$
			317	
			44C	$C_{\mathbf{O}}C_{\mathbf{O}}A_{\mathbf{O}}G_{\mathbf{O}}c_{\mathbf{S}}t_{\mathbf{S}}g_{\mathbf{S}}c_{\mathbf{S}}t_{\mathbf{S}}c_{\mathbf{S}}g_{\mathbf{S}}a_{\mathbf{S}}T_{\mathbf{O}}G_{\mathbf{O}}$
			<u>318</u>	G_{O}^{C}
			44 D	$c_sc_sa_sg_sc_st_sg_sc_st_sc_sg_sa_st_sg_sg_sc$
			<u>319</u>	
465	45	CCTCAATCCATGGCAG	45A	$C_sC_sT_sC_sa_sa_st_sc_sc_sa_st_sg_sG_sC_sA_sG$
			320	
			45B	$C_sC_sT_sC_sa_sa_st_sc_sc_sa_st_sg_sG_sC_sA_sg$
			<u>321</u>	
			45C	$C_{\mathbf{O}}C_{\mathbf{O}}T_{\mathbf{O}}C_{\mathbf{O}}a_{\mathbf{S}}a_{\mathbf{S}}t_{\mathbf{S}}c_{\mathbf{S}}c_{\mathbf{S}}a_{\mathbf{S}}t_{\mathbf{S}}g_{\mathbf{S}}G_{\mathbf{O}}C_{\mathbf{O}}A$
			322	OG
	-		 _	
			45D	$c_s c_s t_s c_s a_s a_s t_s c_s c_s a_s t_s g_s g_s c_s a_s g$
			323	
481	46	CAGCTCCGGCCAGAGG	4 6A	$\left[C_{\mathbf{s}} \mathbf{A}_{\mathbf{s}} G_{\mathbf{s}} C_{\mathbf{s}} \mathbf{t}_{\mathbf{s}} c_{\mathbf{s}} c_{\mathbf{s}} g_{\mathbf{s}} g_{\mathbf{s}} c_{\mathbf{s}} c_{\mathbf{s}} a_{\mathbf{s}} G_{\mathbf{s}} \mathbf{A}_{\mathbf{s}} G_{\mathbf{s}} \mathbf{G} \right]$
			324	
			4 6B	$C_sA_sG_sC_st_sc_sc_sg_sg_sc_sc_sa_sG_sA_sG_sg$
			325	
			46C	$C_{\mathbf{O}}A_{\mathbf{O}}G_{\mathbf{O}}C_{\mathbf{O}}t_{\mathbf{S}}c_{\mathbf{S}}c_{\mathbf{S}}g_{\mathbf{S}}g_{\mathbf{S}}c_{\mathbf{S}}c_{\mathbf{S}}a_{\mathbf{S}}G_{\mathbf{O}}A_{\mathbf{O}}$
			<u>326</u>	$G_{\mathbf{O}}$
		 	160	
			4 6D	$\begin{vmatrix} c_s a_s g_s c_s t_s c_s c_s g_s g_s c_s c_s a_s g_s a_s g_s g_s \end{vmatrix}$
	I		327	

497	47	CCACTCTGGGACCAGG	47A 328	$\boxed{ \mathbf{C_sC_sA_sC_st_s} \mathbf{c_st_s} \mathbf{g_s} \mathbf{g_s} \mathbf{g_s} \mathbf{a_s} \mathbf{c_s} \mathbf{C_s} \mathbf{A_s} \mathbf{G_s} \mathbf{G} }$
			47B 329	$C_{\mathbf{S}}C_{\mathbf{S}}A_{\mathbf{S}}C_{\mathbf{S}}t_{\mathbf{S}}c_{\mathbf{S}}t_{\mathbf{S}}g_{\mathbf{S}}g_{\mathbf{S}}g_{\mathbf{S}}a_{\mathbf{S}}c_{\mathbf{S}}C_{\mathbf{S}}A_{\mathbf{S}}G_{\mathbf{S}}g$
			4 7C 330	$\begin{vmatrix} \mathbf{C_O} \mathbf{C_O} \mathbf{A_O} \mathbf{C_O} \mathbf{t_S} \mathbf{c_S} \mathbf{t_S} \mathbf{g_S} \mathbf{g_S} \mathbf{g_S} \mathbf{g_S} \mathbf{a_S} \mathbf{c_S} \mathbf{C_O} \mathbf{A_O} \\ \mathbf{G_O} \mathbf{G} \end{vmatrix}$
			47D 331	$c_s c_s a_s c_s t_s c_s t_s g_s g_s g_s a_s c_s c_s a_s g_s g$
513	48	CCTGGAAGTGGTGCAG	48A 332	$C_{\mathbf{S}}C_{\mathbf{S}}T_{\mathbf{S}}G_{\mathbf{S}}g_{\mathbf{S}}a_{\mathbf{S}}g_{\mathbf{S}}t_{\mathbf{S}}g_{\mathbf{S}}g_{\mathbf{S}}t_{\mathbf{S}}G_{\mathbf{S}}C_{\mathbf{S}}A_{\mathbf{S}}G$
			48B 333	$C_{\mathbf{S}}C_{\mathbf{S}}T_{\mathbf{S}}G_{\mathbf{S}}g_{\mathbf{S}}a_{\mathbf{S}}g_{\mathbf{S}}t_{\mathbf{S}}g_{\mathbf{S}}g_{\mathbf{S}}t_{\mathbf{S}}G_{\mathbf{S}}C_{\mathbf{S}}A_{\mathbf{S}}g$
			4 8C 334	$\begin{bmatrix} \mathbf{C_O}\mathbf{C_O}\mathbf{T_O}\mathbf{G_O}\mathbf{g_S}\mathbf{a_S}\mathbf{a_S}\mathbf{g_S}\mathbf{t_S}\mathbf{g_S}\mathbf{g_S}\mathbf{t_S}\mathbf{G_O}\mathbf{C_O} \\ \mathbf{A_O}\mathbf{G} \end{bmatrix}$
			48D 335	$c_{\mathbf{S}}c_{\mathbf{S}}t_{\mathbf{S}}g_{\mathbf{S}}g_{\mathbf{S}}a_{\mathbf{S}}a_{\mathbf{S}}g_{\mathbf{S}}t_{\mathbf{S}}g_{\mathbf{S}}g_{\mathbf{S}}t_{\mathbf{S}}g_{\mathbf{S}}c_{\mathbf{S}}a_{\mathbf{S}}g$
529	49	GCACCAGGGAATAAAC	49A 336	$G_{\mathbf{s}}C_{\mathbf{s}}A_{\mathbf{s}}C_{\mathbf{s}}c_{\mathbf{s}}a_{\mathbf{s}}g_{\mathbf{s}}g_{\mathbf{s}}g_{\mathbf{s}}a_{\mathbf{s}}a_{\mathbf{s}}t_{\mathbf{s}}A_{\mathbf{s}}A_{\mathbf{s}}A_{\mathbf{s}}C$
			49B 337	$G_{\mathbf{S}}C_{\mathbf{S}}A_{\mathbf{S}}C_{\mathbf{S}}c_{\mathbf{S}}a_{\mathbf{S}}g_{\mathbf{S}}g_{\mathbf{S}}g_{\mathbf{S}}a_{\mathbf{S}}a_{\mathbf{S}}t_{\mathbf{S}}A_{\mathbf{S}}A_{\mathbf{S}}A_{\mathbf{S}}$
			49 C 338	$\begin{vmatrix} \mathbf{G_0 C_0 A_0 C_0 c_s a_s g_s g_s g_s a_s a_s t_s A_0 A_0} \\ \mathbf{A_0 C} \end{vmatrix}$
			49D 339	$g_{S} c_{S} a_{S} c_{S} c_{S} a_{S} g_{S} g_{S} g_{S} a_{S} a_{S} t_{S} a_{S} a_{S} a_{S} a_{S} c_{S}$
545	50	CACAGGAAGGCTGGTG	50A 340	$C_{\mathbf{S}}\mathbf{A}_{\mathbf{S}}C_{\mathbf{S}}\mathbf{A}_{\mathbf{S}}\mathbf{g}_{\mathbf{S}}\mathbf{g}_{\mathbf{S}}\mathbf{a}_{\mathbf{S}}\mathbf{a}_{\mathbf{S}}\mathbf{g}_{\mathbf{S}}\mathbf{g}_{\mathbf{S}}\mathbf{c}_{\mathbf{S}}\mathbf{t}_{\mathbf{S}}\mathbf{G}_{\mathbf{S}}\mathbf{G}_{\mathbf{S}}\mathbf{T}_{\mathbf{S}}\mathbf{G}$
			50B 341	$C_{\mathbf{S}}\mathbf{A}_{\mathbf{S}}C_{\mathbf{S}}\mathbf{A}_{\mathbf{S}}\mathbf{g}_{\mathbf{S}}\mathbf{g}_{\mathbf{S}}\mathbf{a}_{\mathbf{S}}\mathbf{a}_{\mathbf{S}}\mathbf{g}_{\mathbf{S}}\mathbf{g}_{\mathbf{S}}\mathbf{c}_{\mathbf{S}}\mathbf{t}_{\mathbf{S}}\mathbf{G}_{\mathbf{S}}\mathbf{G}_{\mathbf{S}}\mathbf{G}_{\mathbf{S}}\mathbf{T}_{\mathbf{S}}\mathbf{g}$
			50C 342	$\begin{bmatrix} \mathbf{C_{O}A_{O}C_{O}A_{O}g_{s}g_{s}a_{s}a_{s}g_{s}g_{s}c_{s}t_{s}G_{O}G_{O}} \\ \mathbf{T_{O}G} \end{bmatrix}$
			50D 343	$c_{\mathbf{S}} a_{\mathbf{S}} c_{\mathbf{S}} a_{\mathbf{S}} g_{\mathbf{S}} g_{\mathbf{S}} a_{\mathbf{S}} a_{\mathbf{S}} g_{\mathbf{S}} g_{\mathbf{S}} c_{\mathbf{S}} t_{\mathbf{S}} g_{\mathbf{S}} g_{\mathbf{S}} t_{\mathbf{S}} g$
561	51	ACATTGCTAAGGGGCC	51A 344	$\mathbf{A_sC_sA_sT_s} \mathbf{t_s} \mathbf{g_s} \mathbf{c_s} \mathbf{t_s} \mathbf{a_s} \mathbf{a_s} \mathbf{g_s} \mathbf{g_s} \mathbf{G_s} \mathbf{G_s} \mathbf{C_s} \mathbf{C}$
			51B 345	$\mathbf{A_sC_sA_sT_s} \mathbf{t_s} \mathbf{g_s} \mathbf{c_s} \mathbf{t_s} \mathbf{a_s} \mathbf{a_s} \mathbf{g_s} \mathbf{g_s} \mathbf{G_s} \mathbf{G_s} \mathbf{C_s} \mathbf{c}$
			51C 346	$\begin{vmatrix} \mathbf{A_O} \mathbf{C_O} \mathbf{A_O} \mathbf{T_O} \mathbf{t_S} \mathbf{g_S} \mathbf{c_S} \mathbf{t_S} \mathbf{a_S} \mathbf{a_S} \mathbf{g_S} \mathbf{g_S} \mathbf{G_O} \mathbf{G_O} \\ \mathbf{C_O} \mathbf{C} \end{vmatrix}$

				
			51D 347	$a_s c_s a_s t_s t_s g_s c_s t_s a_s a_s g_s g_s g_s g_s c_s c$
577	52	GATCTCCTTTCCTAAG	52A	$G_{\mathbf{S}}A_{\mathbf{S}}T_{\mathbf{S}}C_{\mathbf{S}}t_{\mathbf{S}}c_{\mathbf{S}}c_{\mathbf{S}}t_{\mathbf{S}}t_{\mathbf{S}}c_{\mathbf{S}}c_{\mathbf{S}}T_{\mathbf{S}}A_{\mathbf{S}}A_{\mathbf{S}}G$
			348	S'1515 S'S'S'S'S'S'S'S S'S'S'S
	 	<u> </u>	52B	$G_{S}A_{S}T_{S}C_{S}t_{S}c_{S}c_{S}t_{S}t_{S}t_{S}c_{S}c_{S}T_{S}A_{S}A_{S}g$
	1		349	GAS SUSUSUSUSUSUSUSUSUSUSUSUSUSUSUSUSUSUS
	 	<u> </u>	52C	GoAoToCotectttee ToAoA
			350	$G_{\mathbf{O}}^{\mathbf{A}} G_{\mathbf{O}}^{\mathbf{T}} G_{\mathbf{O}}^{\mathbf{C}} G_{\mathbf{S}}^{\mathbf{C}} G_{\mathbf{S}}^{\mathbf{T}} G_{\mathbf{S}}^{\mathbf{C}} G_{\mathbf{S}}^{\mathbf{T}} G_{\mathbf{S}}^{\mathbf{A}} G_{\mathbf{O}}^{\mathbf{A}}$
	<u> </u>		330	$O_{\mathbf{G}}$
			52D	$g_s a_s t_s c_s t_s c_s c_s t_s t_s t_s c_s c_s t_s a_s a_s g$
			<u>351</u>	
593	53	CTAATTTGAAAATGTT	53A	$C_sT_sA_sA_st_st_st_sg_sa_sa_sa_sa_sT_sG_sT_sT$
			<u>352</u>	
			53B	$C_sT_sA_sA_st_st_st_sg_sa_sa_sa_sa_sT_sG_sT_st$
			<u>353</u>	
			53C	$\mathbf{C_OT_OA_OA_O} t_s t_s t_s g_s a_s a_s a_s a_s T_O G_O T$
			354	$ _{\mathbf{O}^{\mathbf{T}}}$
	1		52D	
			53D	$c_s t_s a_s a_s t_s t_s t_s g_s a_s a_s a_s a_s t_s g_s t_s t$
609	54	AGCACAGTTGAAACAT	355 54A	A C C A see at the see A C A T
009] 34	AUCACAGTTUAAACAT		$\mathbf{A_{S}G_{S}C_{S}A_{S}c_{S}a_{S}g_{S}t_{S}t_{S}g_{S}a_{S}a_{S}A_{S}C_{S}A_{S}T}$
			356 54B	A C C A 2 2 2 4 4 2 2 2 4 C A 4
			357	$A_{\mathbf{S}}G_{\mathbf{S}}C_{\mathbf{S}}A_{\mathbf{S}}C_{\mathbf{S}}a_{\mathbf{S}}g_{\mathbf{S}}t_{\mathbf{S}}t_{\mathbf{S}}g_{\mathbf{S}}a_{\mathbf{S}}a_{\mathbf{S}}A_{\mathbf{S}}C_{\mathbf{S}}A_{\mathbf{S}}t$
	<u> </u>		54C	A C C A so attaca A C
			358	$\begin{vmatrix} \mathbf{A_O} \mathbf{G_O} \mathbf{C_O} \mathbf{A_O} \mathbf{c_S} \mathbf{a_S} \mathbf{g_S} \mathbf{t_S} \mathbf{t_S} \mathbf{g_S} \mathbf{a_S} \mathbf{a_S} \mathbf{A_O} \mathbf{C_O} \end{vmatrix}$
			336	A _O T
			54D	$a_s g_s c_s a_s c_s a_s g_s t_s t_s g_s a_s a_s a_s c_s a_s t$
			<u>359</u>	
625	55	TTCAAGACAAAACAGG	55A	$T_sT_sC_sA_sa_sg_sa_sc_sa_sa_sa_sC_sA_sG_sG$
			<u>360</u>	
			55B	$T_sT_sC_sA_sa_sg_sa_sc_sa_sa_sa_sC_sA_sG_sg$
			<u>361</u>	2 2 3 3 3 3 3 3 3 3 3 3 3 3
			55C	$T_{\mathbf{O}}T_{\mathbf{O}}C_{\mathbf{O}}A_{\mathbf{O}}a_{\mathbf{S}}g_{\mathbf{S}}a_{\mathbf{S}}c_{\mathbf{S}}a_{\mathbf{S}}a_{\mathbf{S}}a_{\mathbf{S}}a_{\mathbf{S}}C_{\mathbf{O}}A_{\mathbf{O}}$
			362	$G_{\mathbf{O}}^{\mathbf{G}}$
	↓		565	
			55D	$t_{s} t_{s} c_{s} a_{s} a_{s} g_{s} a_{s} c_{s} a_{s} a_{s} a_{s} a_{s} a_{s} c_{s} a_{s} g_{s} g$
641	54	CACCTCTCCTCCCACT	363	GA C CA C T
041	56	CACCTCTGGTGCCACT	56A	$C_{\mathbf{S}}\mathbf{A}_{\mathbf{S}}C_{\mathbf{S}}C_{\mathbf{S}}t_{\mathbf{S}}c_{\mathbf{S}}t_{\mathbf{S}}g_{\mathbf{S}}g_{\mathbf{S}}t_{\mathbf{S}}g_{\mathbf{S}}c_{\mathbf{S}}C_{\mathbf{S}}\mathbf{A}_{\mathbf{S}}C_{\mathbf{S}}\mathbf{T}$
	 		364	
			56B	$\left C_{\mathbf{s}} \mathbf{A}_{\mathbf{s}} C_{\mathbf{s}} C_{\mathbf{s}} t_{\mathbf{s}} c_{\mathbf{s}} t_{\mathbf{s}} g_{\mathbf{s}} g_{\mathbf{s}} t_{\mathbf{s}} g_{\mathbf{s}} c_{\mathbf{s}} C_{\mathbf{s}} \mathbf{A}_{\mathbf{s}} C_{\mathbf{s}} t \right $
		1	<u>365</u>	

			56C	$\boxed{\mathbf{C_O}^{\mathbf{A_O}\mathbf{C_O}\mathbf{C_O}^{t_S\mathbf{c_S}t_S}\mathbf{g_S}\mathbf{g_S}^{t_S}\mathbf{g_S}\mathbf{c_S}\mathbf{C_O}\mathbf{A_O}\mathbf{C}}$
	ŀ		<u>366</u>	\mathbf{o}^{T}
			56D	$c_s a_s c_s c_s t_s c_s t_s g_s g_s t_s g_s c_s c_s a_s c_s t$
	<u> </u>		<u>367</u>	
657	57	GCTGCACAGGCAGAAG	57A	$G_sC_sT_sG_sc_sa_sc_sa_sg_sg_sc_sa_sG_sA_sA_sG$
			<u>368</u>	
			57B	$G_sC_sT_sG_sc_sa_sc_sa_sg_sg_sc_sa_sG_sA_sA_sg$
			369	
			57C	$G_{\mathbf{O}} C_{\mathbf{O}} T_{\mathbf{O}} G_{\mathbf{O}} c_{\mathbf{S}} a_{\mathbf{S}} c_{\mathbf{S}} a_{\mathbf{S}} g_{\mathbf{S}} g_{\mathbf{S}} c_{\mathbf{S}} a_{\mathbf{S}} G_{\mathbf{O}} A_{\mathbf{O}}$
			<u>370</u>	$A_{\mathbf{O}}G$
	 		57D	
			371	$g_{s}c_{s}t_{s}g_{s}c_{s}a_{s}c_{s}a_{s}g_{s}g_{s}c_{s}a_{s}g_{s}a_{s}a_{s}g$
673	58	GTTACCAGCAGCACCC	58A	CTTACCCC
075	30	GITACCAGCAGCACCC	372	$G_{\mathbf{S}}T_{\mathbf{S}}T_{\mathbf{S}}A_{\mathbf{S}}C_{\mathbf{S}}C_{\mathbf{S}}a_{\mathbf{S}}g_{\mathbf{S}}C_{\mathbf{S}}a_{\mathbf{S}}g_{\mathbf{S}}C_{\mathbf{S}}A_{\mathbf{S}}C_{\mathbf{S}}C_{\mathbf{S}}C$
		 	58B	CTTACCCC
			373	$G_{\mathbf{S}}T_{\mathbf{S}}T_{\mathbf{S}}A_{\mathbf{S}}C_{\mathbf{S}}C_{\mathbf{S}}a_{\mathbf{S}}g_{\mathbf{S}}C_{\mathbf{S}}a_{\mathbf{S}}g_{\mathbf{S}}C_{\mathbf{S}}A_{\mathbf{S}}C_{\mathbf{S}}C_{\mathbf{S}}C$
	┼		58C	CaTaTaAacca a a ca a a c
			374	$\begin{bmatrix} \mathbf{G_OT_OT_OA_O} \mathbf{c_Sc_Sa_Sg_Sc_Sa_Sg_Sc_SA_OC_O} \\ \mathbf{G_OT_OT_OA_O} \mathbf{c_Sc_Sa_Sg_Sc_SA_OC_O} \end{bmatrix}$
			374	COC
			58D	$g_s t_s t_s a_s c_s c_s a_s g_s c_s a_s g_s c_s a_s c_s c_s c_s c_s c_s c_s c_s c_s c_s c$
			375	
689	59	GAGAGAAGCAGCCACT	59A	$G_SA_SG_SA_Sg_Sa_Sg_Sc_Sa_Sg_Sc_SC_SA_SC_ST$
			<u>376</u>	
			59B	$G_sA_sG_sA_sg_sa_sa_sg_sc_sa_sg_sc_sC_sA_sC_st$
			377	
			59C	$G_{\mathbf{O}} A_{\mathbf{O}} G_{\mathbf{O}} A_{\mathbf{O}} g_{\mathbf{S}} a_{\mathbf{S}} a_{\mathbf{S}} g_{\mathbf{S}} c_{\mathbf{S}} a_{\mathbf{S}} g_{\mathbf{S}} c_{\mathbf{S}} C_{\mathbf{O}} A_{\mathbf{O}}$
			<u>378</u>	$C_{\mathbf{O}}$ T
			59D	
			379	$\left \begin{array}{c} g_S a_S g_S a_S g_S a_S a_S g_S c_S a_S g_S c_S c_S a_S c_S t \end{array}\right $
705	60	AAAAAAGAGAGAGAGA	60A	A A A A a a g a g a g a G A G A
. 55			380	$A_{\mathbf{S}}A_{\mathbf{S}}A_{\mathbf{S}}A_{\mathbf{S}}a_{\mathbf{S}}a_{\mathbf{S}}a_{\mathbf{S}}g_{\mathbf{S}}a_{\mathbf{S}}g_{\mathbf{S}}a_{\mathbf{S}}g_{\mathbf{S}}a_{\mathbf{S}}G_{\mathbf{S}}A_{\mathbf{S}}G_{\mathbf{S}}A$
	 		60B	A A A A a a g a g a g a G A G a
			381	$A_{\mathbf{S}}A_{\mathbf{S}}A_{\mathbf{S}}A_{\mathbf{S}}a_{\mathbf{S}}a_{\mathbf{S}}g_{\mathbf{S}}a_{\mathbf{S}}g_{\mathbf{S}}a_{\mathbf{S}}g_{\mathbf{S}}a_{\mathbf{S}}G_{\mathbf{S}}A_{\mathbf{S}}G_{\mathbf{S}}a$
	+		60C	A0A0A0A022 9 2 9 2 9 2 G0A0
			382	$\begin{bmatrix} \mathbf{A_O} \mathbf{A_O} \mathbf{A_O} \mathbf{A_O} \mathbf{a_S} \mathbf{a_S} \mathbf{g_S} \mathbf{a_S} \mathbf{g_S} \mathbf{a_S} \mathbf{g_S} \mathbf{a_S} \mathbf{G_O} \mathbf{A_O} \\ \mathbf{G_O} \mathbf{A_O} \mathbf{A_O} \mathbf{A_O} \mathbf{a_S} \mathbf{a_S} \mathbf{g_S} \mathbf{a_S} \mathbf{g_S} \mathbf{a_S} \mathbf{g_S} \mathbf{a_S} \mathbf{G_O} \mathbf{A_O} \end{bmatrix}$
			502	G _O A
			60D	$a_s a_s a_s a_s a_s a_s g_s $
			383	
721	61	GCAAAAATGAGCCCCC	61A	$G_sC_sA_sA_sa_sa_sa_st_sg_sa_sg_sc_sC_sC_sC_sC_sC_s$
		1	<u>384</u>	

			61B 385	$G_{\mathbf{s}}C_{\mathbf{s}}A_{\mathbf{s}}A_{\mathbf{s}}a_{\mathbf{s}}a_{\mathbf{s}}a_{\mathbf{s}}a_{\mathbf{s}}t_{\mathbf{s}}g_{\mathbf{s}}a_{\mathbf{s}}g_{\mathbf{s}}c_{\mathbf{s}}C_{\mathbf{s}}C_{\mathbf{s}}C_{\mathbf{s}}c$
 -	-		61C	$G_{\mathbf{O}}C_{\mathbf{O}}A_{\mathbf{O}}A_{\mathbf{O}}a_{\mathbf{S}}a_{\mathbf{S}}a_{\mathbf{S}}t_{\mathbf{S}}g_{\mathbf{S}}a_{\mathbf{S}}g_{\mathbf{S}}c_{\mathbf{S}}C_{\mathbf{O}}C_{\mathbf{O}}$
_			386	COC
			61D 387	$g_{s}c_{s}a_{s}a_{s}a_{s}a_{s}a_{s}t_{s}g_{s}a_{s}g_{s}c_{s}c_{s}c_{s}c_{s}c$
737	62	CCCGGGAATCAAAACA	62A 388	$C_{\mathbf{S}}C_{\mathbf{S}}C_{\mathbf{S}}G_{\mathbf{S}}g_{\mathbf{S}}g_{\mathbf{S}}a_{\mathbf{S}}a_{\mathbf{S}}t_{\mathbf{S}}c_{\mathbf{S}}a_{\mathbf{S}}a_{\mathbf{S}}A_{\mathbf{S}}A_{\mathbf{S}}C_{\mathbf{S}}A$
			62B 389	$C_{\mathbf{S}}C_{\mathbf{S}}C_{\mathbf{S}}G_{\mathbf{S}}g_{\mathbf{S}}g_{\mathbf{S}}a_{\mathbf{S}}a_{\mathbf{S}}t_{\mathbf{S}}c_{\mathbf{S}}a_{\mathbf{S}}a_{\mathbf{S}}A_{\mathbf{S}}A_{\mathbf{S}}C_{\mathbf{S}}a$
			62C	$C_{\mathbf{O}}C_{\mathbf{O}}C_{\mathbf{O}}G_{\mathbf{O}}g_{\mathbf{S}}g_{\mathbf{S}}a_{\mathbf{S}}a_{\mathbf{S}}t_{\mathbf{S}}c_{\mathbf{S}}a_{\mathbf{S}}a_{\mathbf{S}}A_{\mathbf{O}}A_{\mathbf{O}}$
			<u>390</u>	C _O A
			62D 391	$c_s c_s c_s g_s g_s g_s a_s a_s a_s t_s c_s a_s a_s a_s a_s c_s a$
753	63	CTTCTCACCTGGTAAG	63A 392	$C_{\mathbf{s}}T_{\mathbf{s}}T_{\mathbf{s}}C_{\mathbf{s}}t_{\mathbf{s}}c_{\mathbf{s}}a_{\mathbf{s}}c_{\mathbf{s}}c_{\mathbf{s}}t_{\mathbf{s}}g_{\mathbf{s}}g_{\mathbf{s}}T_{\mathbf{s}}A_{\mathbf{s}}A_{\mathbf{s}}G$
-			63B 393	$C_{\mathbf{S}}T_{\mathbf{S}}T_{\mathbf{S}}C_{\mathbf{S}}t_{\mathbf{S}}c_{\mathbf{S}}a_{\mathbf{S}}c_{\mathbf{S}}c_{\mathbf{S}}t_{\mathbf{S}}g_{\mathbf{S}}g_{\mathbf{S}}T_{\mathbf{S}}A_{\mathbf{S}}A_{\mathbf{S}}g$
			63C 394	$C_{\mathbf{O}}T_{\mathbf{O}}T_{\mathbf{O}}C_{\mathbf{O}}t_{\mathbf{S}}c_{\mathbf{S}}a_{\mathbf{S}}c_{\mathbf{S}}c_{\mathbf{S}}t_{\mathbf{S}}g_{\mathbf{S}}g_{\mathbf{S}}T_{\mathbf{O}}A_{\mathbf{O}}A$
			63D	$\begin{array}{c} \mathbf{O}\mathbf{G} \\ \mathbf{c_{S}t_{S}t_{S}c_{S}t_{S}c_{S}a_{S}c_{S}c_{S}t_{S}g_{S}g_{S}t_{S}a_{S}a_{S}g} \end{array}$
769	64	CCTTCTTCCTCCCTCA	395 64A	$C_{\mathbf{s}}C_{\mathbf{s}}T_{\mathbf{s}}T_{\mathbf{s}}c_{\mathbf{s}}t_{\mathbf{s}}t_{\mathbf{s}}c_{\mathbf{s}}c_{\mathbf{s}}t_{\mathbf{s}}c_{\mathbf{s}}c_{\mathbf{s}}C_{\mathbf{s}}T_{\mathbf{s}}C_{\mathbf{s}}A$
-			396	3 3 3 3 3 3 3 3 3 3 3 3 3 3
			64B 397	$\begin{bmatrix} C_s C_s T_s T_s c_s t_s t_s c_s c_s t_s c_s c_s C_s T_s C_s a \end{bmatrix}$
			64 C 398	$C_{\mathbf{O}}C_{\mathbf{O}}T_{\mathbf{O}}T_{\mathbf{O}}c_{\mathbf{S}}t_{\mathbf{S}}t_{\mathbf{S}}c_{\mathbf{S}}c_{\mathbf{S}}t_{\mathbf{S}}c_{\mathbf{S}}c_{\mathbf{S}}C_{\mathbf{O}}T_{\mathbf{O}}C$
	ļ		↓	OA
			64D 399	$\begin{bmatrix} c_s c_s t_s t_s c_s t_s t_s c_s c_s t_s c_s c_s t_s c_s a \\ \end{bmatrix}$
785	65	AGCAAAAGGGACACTG	65A 400	$\mathbf{A_sG_sC_sA_s} \mathbf{a_s} \mathbf{a_s} \mathbf{a_s} \mathbf{a_s} \mathbf{g_s} \mathbf{g_s} \mathbf{g_s} \mathbf{g_s} \mathbf{a_s} \mathbf{c_s} \mathbf{A_sC_sT_s} \mathbf{G}$
			65B 401	$A_{\mathbf{S}}G_{\mathbf{S}}C_{\mathbf{S}}A_{\mathbf{S}}a_{\mathbf{S}}a_{\mathbf{S}}a_{\mathbf{S}}g_{\mathbf{S}}g_{\mathbf{S}}g_{\mathbf{S}}a_{\mathbf{S}}c_{\mathbf{S}}A_{\mathbf{S}}C_{\mathbf{S}}T_{\mathbf{S}}g$
			65C 402	$\begin{bmatrix} \mathbf{A_O}\mathbf{G_O}\mathbf{C_O}\mathbf{A_O}\mathbf{a_S}\mathbf{a_S}\mathbf{a_S}\mathbf{g_S}\mathbf{g_S}\mathbf{g_S}\mathbf{a_S}\mathbf{c_S}\mathbf{A_O}\mathbf{C_O} \\ \mathbf{T_O}\mathbf{G} \end{bmatrix}$
			65D 403	$a_{s}g_{s}c_{s}a_{s}a_{s}a_{s}a_{s}g_{s}g_{s}g_{s}g_{s}a_{s}c_{s}a_{s}c_{s}t_{s}g$

801	66	CAAAGCTGTCAGCTCT	66A 404	
			66B 405	$C_{\mathbf{s}} \mathbf{A}_{\mathbf{s}} \mathbf{A}_{\mathbf{s}} \mathbf{A}_{\mathbf{s}} \mathbf{g}_{\mathbf{s}} \mathbf{c}_{\mathbf{s}} \mathbf{t}_{\mathbf{s}} \mathbf{g}_{\mathbf{s}} \mathbf{t}_{\mathbf{s}} \mathbf{c}_{\mathbf{s}} \mathbf{a}_{\mathbf{s}} \mathbf{g}_{\mathbf{s}} \mathbf{C}_{\mathbf{s}} \mathbf{T}_{\mathbf{s}} \mathbf{C}_{\mathbf{s}} \mathbf{t}$
			66C 406	$\begin{bmatrix} \mathbf{C_O A_O A_O A_O g_S c_S t_S g_S t_S c_S a_S g_S C_O T_O} \\ \mathbf{C_O T} \end{bmatrix}$
			66D 407	$c_{\mathbf{s}^{\mathbf{a}}\mathbf{s}^{\mathbf{a}}\mathbf{s}^{\mathbf{a}}\mathbf{s}^{\mathbf{a}}\mathbf{s}^{\mathbf{g}}\mathbf{s}^{\mathbf{c}}\mathbf{s}^{\mathbf{t}}\mathbf{s}^{\mathbf{g}}\mathbf{s}^{\mathbf{t}}\mathbf{s}^{\mathbf{c}}\mathbf{s}^{\mathbf{a}}\mathbf{s}^{\mathbf{g}}\mathbf{s}^{\mathbf{c}}\mathbf{s}^{\mathbf{t}}\mathbf{s}^{\mathbf{c}}\mathbf{s}^{\mathbf{t}}}$
817	67	GCTCTGCCCACGCGAA	67A 408	$G_{\mathbf{s}}C_{\mathbf{s}}T_{\mathbf{s}}C_{\mathbf{s}}t_{\mathbf{s}}g_{\mathbf{s}}c_{\mathbf{s}}c_{\mathbf{s}}c_{\mathbf{s}}a_{\mathbf{s}}c_{\mathbf{s}}g_{\mathbf{s}}C_{\mathbf{s}}G_{\mathbf{s}}A_{\mathbf{s}}A$
			67B 409	$G_{\mathbf{s}}C_{\mathbf{s}}T_{\mathbf{s}}C_{\mathbf{s}}t_{\mathbf{s}}g_{\mathbf{s}}c_{\mathbf{s}}c_{\mathbf{s}}c_{\mathbf{s}}c_{\mathbf{s}}a_{\mathbf{s}}c_{\mathbf{s}}g_{\mathbf{s}}C_{\mathbf{s}}G_{\mathbf{s}}A_{\mathbf{s}}a$
			67C 410	$\begin{bmatrix} \mathbf{G_O} \mathbf{C_O} \mathbf{T_O} \mathbf{C_O} \mathbf{t_S} \mathbf{g_S} \mathbf{c_S} \mathbf{c_S} \mathbf{c_S} \mathbf{a_S} \mathbf{c_S} \mathbf{g_S} \mathbf{C_O} \mathbf{G_O} \\ \mathbf{A_O} \mathbf{A} \end{bmatrix}$
			67D 411	$g_{S}c_{S}t_{S}c_{S}t_{S}g_{S}c_{S}c_{S}c_{S}a_{S}c_{S}g_{S}c_{S}g_{S}a_{S}a$
833	68	ACATTCACTGTGGAAG	68A 412	$\mathbf{A_sC_sA_sT_s} \mathbf{t_s} \mathbf{c_s} \mathbf{a_s} \mathbf{c_s} \mathbf{t_s} \mathbf{g_s} \mathbf{t_s} \mathbf{g_s} \mathbf{G_sA_sA_sG}$
			68B 413	$\mathbf{A_sC_sA_sT_st_sc_sa_sc_st_sg_st_sg_sG_sA_sA_sg}$
			68C 414	$\begin{vmatrix} \mathbf{A_O} \mathbf{C_O} \mathbf{A_O} \mathbf{T_O} \mathbf{t_S} \mathbf{c_S} \mathbf{a_S} \mathbf{c_S} \mathbf{t_S} \mathbf{g_S} \mathbf{t_S} \mathbf{g_S} \mathbf{G_O} \mathbf{A_O} \mathbf{A} \\ \mathbf{O} \mathbf{G} \end{vmatrix}$
			68D 415	$a_{\mathbf{s}}c_{\mathbf{s}}a_{\mathbf{s}}t_{\mathbf{s}}t_{\mathbf{s}}c_{\mathbf{s}}a_{\mathbf{s}}c_{\mathbf{s}}t_{\mathbf{s}}g_{\mathbf{s}}t_{\mathbf{s}}g_{\mathbf{s}}g_{\mathbf{s}}a_{\mathbf{s}}a_{\mathbf{s}}g$
849	69	AACATGAGGTCCAGAC	69A 416	$\mathbf{A_s}\mathbf{A_s}\mathbf{C_s}\mathbf{A_s}\mathbf{t_s}\mathbf{g_s}\mathbf{a_s}\mathbf{g_s}\mathbf{g_s}\mathbf{t_s}\mathbf{c_s}\mathbf{c_s}\mathbf{A_s}\mathbf{G_s}\mathbf{A_s}\mathbf{C}$
			69B 417	$A_sA_sC_sA_st_sg_sa_sg_sg_st_sc_sc_sA_sG_sA_sc$
			69C 418	$\begin{vmatrix} \mathbf{A_O} \mathbf{A_O} \mathbf{C_O} \mathbf{A_O} \mathbf{t_S} \mathbf{g_S} \mathbf{a_S} \mathbf{g_S} \mathbf{t_S} \mathbf{c_S} \mathbf{c_S} \mathbf{A_O} \mathbf{G_O} \\ \mathbf{A_O} \mathbf{C} \end{vmatrix}$
			69D 419	$a_{\mathbf{S}}a_{\mathbf{S}}c_{\mathbf{S}}a_{\mathbf{S}}t_{\mathbf{S}}g_{\mathbf{S}}a_{\mathbf{S}}g_{\mathbf{S}}g_{\mathbf{S}}t_{\mathbf{S}}c_{\mathbf{S}}c_{\mathbf{S}}a_{\mathbf{S}}g_{\mathbf{S}}a_{\mathbf{S}}c$
865	70	CTGTGACAGCCTCAAC	70A 420	$C_{\mathbf{S}}T_{\mathbf{S}}G_{\mathbf{S}}T_{\mathbf{S}}g_{\mathbf{S}}a_{\mathbf{S}}c_{\mathbf{S}}a_{\mathbf{S}}g_{\mathbf{S}}c_{\mathbf{S}}c_{\mathbf{S}}t_{\mathbf{S}}C_{\mathbf{S}}A_{\mathbf{S}}A_{\mathbf{S}}C$
			70B 421	$C_{\mathbf{S}}T_{\mathbf{S}}G_{\mathbf{S}}T_{\mathbf{S}}g_{\mathbf{S}}a_{\mathbf{S}}c_{\mathbf{S}}a_{\mathbf{S}}g_{\mathbf{S}}c_{\mathbf{S}}c_{\mathbf{S}}t_{\mathbf{S}}C_{\mathbf{S}}A_{\mathbf{S}}A_{\mathbf{S}}c$
			70C <u>422</u>	$\begin{vmatrix} \mathbf{C_OT_OG_OT_Og_sa_sc_sa_gg_sc_sc_st_sC_OA_O} \\ \mathbf{A_OC} \end{vmatrix}$

	т		T===	
			70D 423	$c_s t_s g_s t_s g_s a_s c_s a_s g_s c_s c_s t_s c_s a_s a_s c$
881	71	AAGTCCACACTCAGGA	71A	$A_{\mathbf{S}}A_{\mathbf{S}}G_{\mathbf{S}}T_{\mathbf{S}}C_{\mathbf{S}}C_{\mathbf{S}}a_{\mathbf{S}}C_{\mathbf{S}}a_{\mathbf{S}}C_{\mathbf{S}}t_{\mathbf{S}}C_{\mathbf{S}}A_{\mathbf{S}}G_{\mathbf{S}}G_{\mathbf{S}}A$
			424	2 2 2 2.2.2.2.2.2.2.2 2 2.2.2
			71B	$A_{\mathbf{S}}A_{\mathbf{S}}G_{\mathbf{S}}T_{\mathbf{S}}c_{\mathbf{S}}c_{\mathbf{S}}a_{\mathbf{S}}c_{\mathbf{S}}a_{\mathbf{S}}c_{\mathbf{S}}t_{\mathbf{S}}c_{\mathbf{S}}A_{\mathbf{S}}G_{\mathbf{S}}G_{\mathbf{S}}a$
			<u>425</u>	
			71C	$\mathbf{A_O}\mathbf{A_O}\mathbf{G_O}\mathbf{T_O}\mathbf{c_S}\mathbf{c_S}\mathbf{a_S}\mathbf{c_S}\mathbf{a_S}\mathbf{c_S}\mathbf{t_S}\mathbf{c_S}\mathbf{A_O}\mathbf{G_O}$
			<u>426</u>	G _O A
			71D	$a_s a_s g_s t_s c_s c_s a_s c_s a_s c_s t_s c_s a_s g_s g_s a$
	ļ		427	
897	72	TCAACAGGCACCTGCC	72A	$T_{\mathbf{s}}C_{\mathbf{s}}A_{\mathbf{s}}A_{\mathbf{s}}C_{\mathbf{s}}a_{\mathbf{s}}g_{\mathbf{s}}g_{\mathbf{s}}c_{\mathbf{s}}a_{\mathbf{s}}c_{\mathbf{s}}c_{\mathbf{s}}T_{\mathbf{s}}G_{\mathbf{s}}C_{\mathbf{s}}C$
	<u> </u>		428	
			72B	$T_{\mathbf{S}}C_{\mathbf{S}}A_{\mathbf{S}}A_{\mathbf{S}}c_{\mathbf{S}}a_{\mathbf{S}}g_{\mathbf{S}}g_{\mathbf{S}}c_{\mathbf{S}}a_{\mathbf{S}}c_{\mathbf{S}}c_{\mathbf{S}}T_{\mathbf{S}}G_{\mathbf{S}}C_{\mathbf{S}}c$
	-		429	
			72C	$T_{\mathbf{O}}C_{\mathbf{O}}A_{\mathbf{O}}A_{\mathbf{O}}c_{\mathbf{S}}a_{\mathbf{S}}g_{\mathbf{S}}g_{\mathbf{S}}c_{\mathbf{S}}a_{\mathbf{S}}c_{\mathbf{S}}c_{\mathbf{S}}T_{\mathbf{O}}G_{\mathbf{O}}$
			430	COC
			72D	$t_{S}c_{S}a_{S}a_{S}c_{S}a_{S}g_{S}g_{S}g_{S}c_{S}a_{S}c_{S}c_{S}c_{S}g_{S}c_{S}c$
171	<u> </u>		431	
913	73	AACCTGCAGCTCAGAT	73A	$A_{\mathbf{s}}A_{\mathbf{s}}C_{\mathbf{s}}C_{\mathbf{s}}t_{\mathbf{s}}g_{\mathbf{s}}c_{\mathbf{s}}a_{\mathbf{s}}g_{\mathbf{s}}c_{\mathbf{s}}t_{\mathbf{s}}c_{\mathbf{s}}A_{\mathbf{s}}G_{\mathbf{s}}A_{\mathbf{s}}T$
<u> </u>			432	
			73B	$A_{\mathbf{s}}A_{\mathbf{s}}C_{\mathbf{s}}C_{\mathbf{s}}t_{\mathbf{s}}g_{\mathbf{s}}c_{\mathbf{s}}a_{\mathbf{s}}g_{\mathbf{s}}c_{\mathbf{s}}t_{\mathbf{s}}c_{\mathbf{s}}A_{\mathbf{s}}G_{\mathbf{s}}A_{\mathbf{s}}t$
			433	A A C C A
			73C	$\mathbf{A_O}\mathbf{A_O}\mathbf{C_O}\mathbf{C_O}\mathbf{t_S}\mathbf{g_S}\mathbf{c_S}\mathbf{a_S}\mathbf{g_S}\mathbf{c_S}\mathbf{t_S}\mathbf{c_S}\mathbf{A_O}\mathbf{G_O}$
			434	A_{O} T
			73D	$a_s a_s c_s c_s t_s g_s c_s a_s g_s c_s t_s c_s a_s g_s a_s t$
			435	
929	74	GGTGTGACAGATAAGG	74A	$G_{\mathbf{S}}G_{\mathbf{S}}T_{\mathbf{S}}G_{\mathbf{S}}t_{\mathbf{S}}g_{\mathbf{S}}a_{\mathbf{S}}c_{\mathbf{S}}a_{\mathbf{S}}g_{\mathbf{S}}a_{\mathbf{S}}t_{\mathbf{S}}A_{\mathbf{S}}A_{\mathbf{S}}G_{\mathbf{S}}G$
	-		436	
			74B	$G_{\mathbf{s}}G_{\mathbf{s}}T_{\mathbf{s}}G_{\mathbf{s}}t_{\mathbf{s}}g_{\mathbf{s}}a_{\mathbf{s}}c_{\mathbf{s}}a_{\mathbf{s}}g_{\mathbf{s}}a_{\mathbf{s}}t_{\mathbf{s}}A_{\mathbf{s}}A_{\mathbf{s}}G_{\mathbf{s}}g$
	-		437	
			74C	$\left \mathbf{G_{O}G_{O}T_{O}G_{O}t_{S}g_{S}a_{S}c_{S}a_{S}g_{S}a_{S}t_{S}A_{O}A_{O}} \right $
			438	GOG
			74D	$g_Sg_St_Sg_St_Sg_Sa_Sc_Sa_Sg_Sa_St_Sa_Sa_Sg_Sg$
<u> </u>	<u> </u>		439	
945	75	CCTCTGAGGAGGCACA	75A	$\left[C_{\mathbf{s}}C_{\mathbf{s}}T_{\mathbf{s}}C_{\mathbf{s}}t_{\mathbf{s}}g_{\mathbf{s}}a_{\mathbf{s}}g_{\mathbf{s}}g_{\mathbf{s}}a_{\mathbf{s}}g_{\mathbf{s}}g_{\mathbf{s}}C_{\mathbf{s}}A_{\mathbf{s}}C_{\mathbf{s}}A \right]$
	<u> </u>		440	
			75B	$\left C_{\mathbf{S}}C_{\mathbf{S}}T_{\mathbf{S}}C_{\mathbf{S}}t_{\mathbf{S}}g_{\mathbf{S}}a_{\mathbf{S}}g_{\mathbf{S}}g_{\mathbf{S}}a_{\mathbf{S}}g_{\mathbf{S}}g_{\mathbf{S}}C_{\mathbf{S}}A_{\mathbf{S}}C_{\mathbf{S}}a \right $
			441	

	Τ		75C	CoCoToCot g a g g g g G c A =
			442	$\begin{bmatrix} \mathbf{C_O} \mathbf{C_O} \mathbf{T_O} \mathbf{C_O} \mathbf{t_S} \mathbf{g_S} \mathbf{a_S} \mathbf{g_S} \mathbf{g_S} \mathbf{a_S} \mathbf{g_S} \mathbf{g_S} \mathbf{C_O} \mathbf{A_O} \\ \mathbf{C_O} \mathbf{A_O} \mathbf{a_S} \mathbf{a_S} \mathbf{a_S} \mathbf{g_S} \mathbf{g_S} \mathbf{a_S} \mathbf{g_S} \mathbf{g_S} \mathbf{a_S} \mathbf{a_S} \mathbf{g_S} \mathbf{a_S} a$
	<u> </u>			C _O A
			75D	$c_{\mathrm{S}}c_{\mathrm{S}}t_{\mathrm{S}}c_{\mathrm{S}}t_{\mathrm{S}}g_{\mathrm{S}}a_{\mathrm{S}}g_{\mathrm{S}}g_{\mathrm{S}}a_{\mathrm{S}}g_{\mathrm{S}}g_{\mathrm{S}}c_{\mathrm{S}}a_{\mathrm{S}}c_{\mathrm{S}}a$
	\ <u></u>		443	
961	76	ACAACAAAAAAACTGT	76A	$\mathbf{A_sC_sA_sA_s}\mathbf{c_s}\mathbf{a_s}\mathbf{a_s}\mathbf{a_s}\mathbf{a_s}\mathbf{a_s}\mathbf{a_s}\mathbf{a_s}\mathbf{a_s}\mathbf{a_s}\mathbf{a_s}\mathbf{a_s}\mathbf{C_sT_s}\mathbf{G_s}\mathbf{T}$
	-		444	
			76B	$A_sC_sA_sA_sc_sa_sa_sa_sa_sa_sa_sa_sC_sT_sG_st$
	┿		445	
ı			76C	$\mathbf{A_{O}C_{O}A_{O}A_{O}c_{s}a_{s}a_{s}a_{s}a_{s}a_{s}a_{s}a_{s}C_{O}T_{O}}$
	ļ		446	$G_{\mathbf{O}}T$
			76D	$a_s c_s a_s a_s c_s a_s a_s a_s a_s a_s a_s a_s c_s t_s g_s t$
			447	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3
977	77	AAAACAAAAAAACACA	77A	$A_sA_sA_sA_sc_sa_sa_sa_sa_sa_sa_sa_sC_sA_sC_sA$
			448	
			77B	$\mathbf{A_s}\mathbf{A_s}\mathbf{A_s}\mathbf{A_s}\mathbf{c_s}\mathbf{a_s}\mathbf{a_s}\mathbf{a_s}\mathbf{a_s}\mathbf{a_s}\mathbf{a_s}\mathbf{a_s}\mathbf{a_s}\mathbf{a_s}\mathbf{c_s}\mathbf{A_s}\mathbf{C_s}\mathbf{a_s}$
	<u> </u>		449	
	1		77C	$\begin{vmatrix} \mathbf{A_O A_O A_O A_O c_S a_S a_S a_S a_S a_S a_S a_S a_S C_O A_O} \end{vmatrix}$
	1		<u>450</u>	COA
-	 		77D	$a_S a_S a_S c_S a_S a_S a_S a_S a_S a_S a_S a_S c_S c_S c_S a_S c_S c_S a_S c_S c_S c_S c_S c_S c_S c_S c_S c_S c$
			451	
993	78	CATCTACCAAAAAAA	78A	$C_sA_sT_sC_st_sa_sc_sc_sa_sa_sa_sa_sA_sA_sA_sA$
			452	-8-8-8-8-8-8-8-8-8-8-8-8-8-8-
	İ		78B	$C_sA_sT_sC_st_sa_sc_sc_sa_sa_sa_sa_sA_sA_sA_sa$
	1		453	
			78C	$C_{\mathbf{O}}A_{\mathbf{O}}T_{\mathbf{O}}C_{\mathbf{O}}t_{\mathbf{S}}a_{\mathbf{S}}c_{\mathbf{S}}c_{\mathbf{S}}a_{\mathbf{S}}a_{\mathbf{S}}a_{\mathbf{S}}a_{\mathbf{S}}A_{\mathbf{O}}A_{\mathbf{O}}$
			<u>454</u>	AOA
	 		78D	
			455	$c_s a_s t_s c_s t_s a_s c_s c_s a_s a_s a_s a_s a_s a_s a_s a_s a_s$
1009	79	TCACACACAAGTCATG	79A	TCACacacacatCATC
1005	'		456	$\left \begin{array}{c} \mathbf{T_sC_sA_sC_s} \mathbf{a_sc_s} \mathbf{a_sc_s} \mathbf{a_s} \mathbf{a_s} \mathbf{g_st_sC_sA_sT_sG} \end{array} \right $
	 		79B	T C A C a c a c a a g t C A T g
			457	$\left \mathbf{T_sC_sA_sC_s} \mathbf{a_sc_s} \mathbf{a_sc_s} \mathbf{a_s} \mathbf{a_s} \mathbf{a_s} \mathbf{a_s} \mathbf{a_s} \mathbf{a_s} \mathbf{T_sC_s} \mathbf{A_sT_s} \mathbf{g} \right $
	<u> </u>		79C	$T_{\mathbf{O}}C_{\mathbf{O}}A_{\mathbf{O}}C_{\mathbf{O}}a_{\mathbf{S}}c_{\mathbf{S}}a_{\mathbf{S}}c_{\mathbf{S}}a_{\mathbf{S}}g_{\mathbf{S}}t_{\mathbf{S}}C_{\mathbf{O}}A_{\mathbf{O}}$
			458	
	 			T _O G
			79D	$t_s c_s a_s c_s a_s c_s a_s c_s a_s a_s g_s t_s c_s a_s t_s g$
1025	00	TOTOTOO A TOTOTOO	459	m c m c
1025	80	TGTCTCCATTCTCTCA	80A	$\left \mathbf{T_sG_sT_sC_s} \mathbf{t_sc_s} \mathbf{c_s} \mathbf{a_s} \mathbf{t_st_s} \mathbf{c_s} \mathbf{t_s} \mathbf{C_sT_sC_s} \mathbf{A} \right $
	<u> </u>		<u>460</u>	

	_		T	
			80B 461	$\mathbf{T_sG_sT_sC_s}t_sc_sc_sa_st_st_sc_st_sC_s\mathbf{T_sC_s}a$
			80C	$T_{\mathbf{O}}G_{\mathbf{O}}T_{\mathbf{O}}C_{\mathbf{O}}t_{\mathbf{S}}c_{\mathbf{S}}c_{\mathbf{S}}a_{\mathbf{S}}t_{\mathbf{S}}t_{\mathbf{S}}c_{\mathbf{S}}t_{\mathbf{S}}C_{\mathbf{O}}T_{\mathbf{O}}C$
			<u>462</u>	0 0 0 0 3 3 3 3 3 3 3 0 0
			80D	$t_s g_s t_s c_s t_s c_s c_s a_s t_s t_s c_s t_s c_s t_s c_s a$
			<u>463</u>	
1041	81	GAGGAGCCAGGGACTC	81A	$G_sA_sG_sG_sa_sg_sc_sc_sa_sg_sg_sg_sA_sC_sT_sC$
_			464	
			81B	$G_sA_sG_sG_sa_sg_sc_sc_sa_sg_sg_sg_sA_sC_sT_sc_s$
			465	
			81C	$G_{\mathbf{O}} = G_{\mathbf{O}}$
			<u>466</u>	T _O C
			81D	$g_s a_s g_s g_s a_s g_s c_s c_s a_s g_s g_s g_s a_s c_s t_s c$
			467	
1057	82	ATGTTGTTAAACAGTA	82A	$A_sT_sG_sT_st_sg_st_st_sa_sa_sa_sc_sA_sG_sT_sA$
	<u> </u>		468	
			82B	$A_sT_sG_sT_st_sg_st_st_sa_sa_sa_sc_sA_sG_sT_sa$
			469	
			82C	$\mathbf{A_O}\mathbf{T_O}\mathbf{G_O}\mathbf{T_O}\mathbf{t_S}\mathbf{g_S}\mathbf{t_S}\mathbf{t_S}\mathbf{a_S}\mathbf{a_S}\mathbf{a_S}\mathbf{a_S}\mathbf{c_S}\mathbf{A_O}\mathbf{G_O}\mathbf{T}$
			<u>470</u>	OA
			82D	$a_s t_s g_s t_s t_s g_s t_s t_s a_s a_s a_s c_s a_s g_s t_s a$
	<u></u>		<u>471</u>	
1073	83	ACAAAATAAGAAAGCC	83A	$A_sC_sA_sA_sa_sa_st_sa_sa_sg_sa_sa_sA_sG_sC_sC$
			472	
			83B	$A_sC_sA_sA_sa_sa_st_sa_sa_sg_sa_sa_sA_sG_sC_sc$
			473	
			83C	$\begin{vmatrix} \mathbf{A_O} \mathbf{C_O} \mathbf{A_O} \mathbf{A_O} \mathbf{a_S} \mathbf{a_S} \mathbf{t_S} \mathbf{a_S} \mathbf{a_S} \mathbf{a_S} \mathbf{a_S} \mathbf{a_S} \mathbf{A_O} \mathbf{G_O} \end{vmatrix}$
			474	c_0c
			83D	$a_s c_s a_s a_s a_s a_s t_s a_s a_s g_s a_s a_s a_s g_s c_s c$
			475	
1089	84	TGAATTAACAATTCAA	84A	$T_sG_sA_sA_st_st_sa_sa_sc_sa_sa_st_sT_sC_sA_sA$
			<u>476</u>	
			84B	$T_sG_sA_sA_st_st_sa_sa_sc_sa_sa_st_sT_sC_sA_sa$
			477	
			84C	$\mid \mathbf{T_OG_OA_OA_Ot_st_sa_sa_sc_sa_sa_st_sT_OC_OA} \mid$
			478	OA
			84D	$t_{s}g_{s}a_{s}a_{s}t_{s}t_{s}a_{s}a_{s}c_{s}a_{s}a_{s}t_{s}t_{s}c_{s}a_{s}a$
			<u>479</u>	

1105	85	AGTTTGTGCTATTCTG	85A	$\boxed{\mathbf{A_sG_sT_sT_st_s}} \mathbf{g_st_s} \mathbf{g_sc_st_s} \mathbf{a_st_s} \mathbf{T_sC_sT_s} \mathbf{G}$
	 		480	
			85B	$\mathbf{A_sG_sT_sT_s}\mathbf{t_s}\mathbf{g_s}\mathbf{t_s}\mathbf{g_s}\mathbf{c_s}\mathbf{t_s}\mathbf{a_s}\mathbf{t_s}\mathbf{T_s}\mathbf{C_s}\mathbf{T_s}\mathbf{g}$
	<u> </u>		481	
	:		85C	$\mathbf{A_OG_OT_OT_Ot_Sg_St_Sg_Sc_St_Sa_St_ST_OC_OT}$
			482	$\mathbf{O}_{\mathbf{G}}$
			85D	$a_s g_s t_s t_s t_s g_s t_s g_s c_s t_s a_s t_s t_s c_s t_s g$
			<u>483</u>	3-3 5 5 5 5 5 5 5 5 5 5 5 5 5 5
1121	86	GCTTAGTTTTAATTGT	86A	$G_sC_sT_sT_sa_sg_st_st_st_sa_sa_sT_sT_sG_sT$
			484	
			86B	$G_sC_sT_sT_sa_sg_st_st_st_st_sa_sa_sT_sT_sG_st$
			485	-2-2-2-2-2-2-2-2-2-2-2-3
			86C	$G_{\mathbf{O}}C_{\mathbf{O}}T_{\mathbf{O}}T_{\mathbf{O}}a_{\mathbf{S}}g_{\mathbf{S}}t_{\mathbf{S}}t_{\mathbf{S}}t_{\mathbf{S}}t_{\mathbf{S}}a_{\mathbf{S}}a_{\mathbf{S}}T_{\mathbf{O}}T_{\mathbf{O}}G$
			486	
			100	$ o^T $
			86D	$g_s c_s t_s t_s a_s g_s t_s t_s t_s t_s a_s a_s t_s t_s g_s t$
			<u>487</u>	
1137	87	CTTAGAATGGCTTTGT	87A	$C_sT_sT_sA_sg_sa_sa_st_sg_sg_sc_st_sT_sT_sG_sT$
			<u>488</u>	
			87B	$C_sT_sT_sA_sg_sa_sa_st_sg_sg_sc_st_sT_sT_sG_st$
			489	
			87€	$C_{\mathbf{O}}T_{\mathbf{O}}T_{\mathbf{O}}A_{\mathbf{O}}g_{s}a_{s}a_{s}t_{s}g_{s}g_{s}c_{s}t_{s}T_{\mathbf{O}}T_{\mathbf{O}}G$
			490	
			↓	o ^T
			87 D	$c_s t_s t_s a_s g_s a_s a_s t_s g_s g_s c_s t_s t_s t_s g_s t$
			491	
1153	88	CCCGTTTCCCCAATGA	88A	$C_sC_sC_sC_st_st_st_sc_sc_sc_sc_sa_sA_sT_sG_sA$
			<u>492</u>	
			88B	$C_sC_sC_sG_st_st_st_sc_sc_sc_sc_sa_sA_sT_sG_sa$
			<u>493</u>	2 2 2 2 2 2 2 3 3 3 3 3 3 3
			88C	$C_{\mathbf{O}}C_{\mathbf{O}}C_{\mathbf{O}}C_{\mathbf{O}}C_{\mathbf{O}}C_{\mathbf{S}}C_{\mathbf$
			494	! .
	ļ			OA
			88D	$\begin{vmatrix} c_s c_s c_s g_s t_s t_s t_s c_s c_s c_s c_s a_s a_s t_s g_s a \end{vmatrix}$
			495	
1169	89	TCCACCTGAAGTTCAC	89A	$\left T_{\mathbf{s}} C_{\mathbf{s}} C_{\mathbf{s}} A_{\mathbf{s}} c_{\mathbf{s}} c_{\mathbf{s}} t_{\mathbf{s}} g_{\mathbf{s}} a_{\mathbf{s}} a_{\mathbf{s}} g_{\mathbf{s}} t_{\mathbf{s}} T_{\mathbf{s}} C_{\mathbf{s}} A_{\mathbf{s}} C \right $
			496	
			89B	$T_sC_sC_sA_sc_sc_st_sg_sa_sa_sg_st_sT_sC_sA_sc$
			<u>497</u>	
			89C	
			<u>498</u>	!
	<u></u>			OC

			89D 499	$t_{s}c_{s}c_{s}a_{s}c_{s}c_{s}t_{s}g_{s}a_{s}a_{s}g_{s}t_{s}t_{s}c_{s}a_{s}c$
1185	90	CTATTCTGTCTCCTCA	90A	$C_sT_sA_sT_st_sc_st_sg_st_sc_st_sc_sC_sT_sC_sA$
			500	3 3 3 3 3 5 5 5 5 5 5 5 5 5 5
			90B	$C_sT_sA_sT_st_sc_st_sg_st_sc_st_sc_sC_sT_sC_sa$
			501	3 3 3 3 3 3 5 5 5 5 5 5 5 5 5
	1		90C	$C_O T_O A_O T_O t_s c_s t_s g_s t_s c_s t_s c_s C_O T_O C$
			<u>502</u>	0 ^A
			90D	$c_s t_s a_s t_s t_s c_s t_s g_s t_s c_s t_s c_s c_s t_s c_s a$
			503	
1201	91	GACGCTTCCTATCACT	91A	$G_sA_sC_sG_sc_st_st_sc_sc_st_sa_st_sC_sA_sC_sT$
			<u>504</u>	
		,	91B	$G_sA_sC_sG_sc_st_st_sc_sc_st_sa_st_sC_sA_sC_st$
			<u>505</u>	
			91C	$G_{\mathbf{O}}A_{\mathbf{O}}C_{\mathbf{O}}G_{\mathbf{O}}c_{\mathbf{S}}t_{\mathbf{S}}t_{\mathbf{S}}c_{\mathbf{S}}c_{\mathbf{S}}t_{\mathbf{S}}a_{\mathbf{S}}t_{\mathbf{S}}C_{\mathbf{O}}A_{\mathbf{O}}C$
			<u>506</u>	$\mathbf{o}^{\mathbf{T}}$
			91D	$g_s a_s c_s g_s c_s t_s t_s c_s c_s t_s a_s t_s c_s a_s c_s t$
			<u>507</u>	-5 5 5-5 5 5 5 5 5 5 5 5 5 5 5
1217	92	AAAGGAGTATCTGCCA	92A	$A_sA_sA_sG_sg_sa_sg_st_sa_st_sc_st_sG_sC_sC_sA$
			<u>508</u>	3 3 3 3 3 3 3 3 3 3 3 3
			92B	$A_sA_sG_sg_sa_sg_st_sa_st_sc_st_sG_sC_sC_sa$
			<u>509</u>	3 3 3 5 5 5 5 5 5 5 5 5
			92C	$\mathbf{A_O}\mathbf{A_O}\mathbf{A_O}\mathbf{G_O}\mathbf{g_S}\mathbf{a_S}\mathbf{g_S}\mathbf{t_S}\mathbf{a_S}\mathbf{t_S}\mathbf{c_S}\mathbf{t_S}\mathbf{G_O}\mathbf{C_O}\mathbf{C}$
			<u>510</u>	O ^A
			92D	$a_s a_s a_s g_s g_s a_s g_s t_s a_s t_s c_s t_s g_s c_s c_s a$
			511	
1233	93	TCACACAGCAGTGGCA	93A	$T_sC_sA_sC_sa_sc_sa_sg_sc_sa_sg_st_sG_sG_sC_sA$
			<u>512</u>	
			93B	$T_sC_sA_sC_sa_sc_sa_sg_sc_sa_sg_st_sG_sG_sC_sa$
			513	
			93C	$T_{\mathbf{O}}C_{\mathbf{O}}A_{\mathbf{O}}C_{\mathbf{O}}a_{\mathbf{S}}c_{\mathbf{S}}a_{\mathbf{S}}g_{\mathbf{S}}c_{\mathbf{S}}a_{\mathbf{S}}g_{\mathbf{S}}t_{\mathbf{S}}G_{\mathbf{O}}G_{\mathbf{O}}$
			<u>514</u>	C _O A
			93D	t _s c _s a _s c _s a _s c _s a _s g _s c _s a _s g _s t _s g _s g _s c _s a
			<u>515</u>	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
1249	94	CACTGGGCCTGTCTAA	94A	$C_sA_sC_sT_sg_sg_sg_sc_sc_st_sg_st_sC_sT_sA_sA$
			<u>516</u>	0 0 0 0-0-0-0 0 0 0 0
			94B	$C_sA_sC_sT_sg_sg_sg_sc_sc_st_sg_st_sC_sT_sA_sa$
			517	0 0 0 0-0-0-0 0 0 0 0

			94C	$\boxed{\mathbf{C_O}^{\mathbf{A_O}}\mathbf{C_O}^{T_O}\mathbf{g_S}\mathbf{g_S}\mathbf{g_S}\mathbf{c_S}\mathbf{c_S}\mathbf{t_S}\mathbf{g_S}\mathbf{t_S}\mathbf{C_O}^{T_O}}$
			<u>518</u>	A _O A
· ·			94D	$c_{\mathbf{S}}a_{\mathbf{S}}c_{\mathbf{S}}t_{\mathbf{S}}g_{\mathbf{S}}g_{\mathbf{S}}g_{\mathbf{S}}c_{\mathbf{S}}c_{\mathbf{S}}t_{\mathbf{S}}g_{\mathbf{S}}t_{\mathbf{S}}c_{\mathbf{S}}t_{\mathbf{S}}a_{\mathbf{S}}a$
10.5	<u> </u>		519	
1265	95	CATGTGCCCCGCGGCT	95A	$C_{\mathbf{s}}\mathbf{A}_{\mathbf{s}}\mathbf{T}_{\mathbf{s}}G_{\mathbf{s}}\mathbf{t}_{\mathbf{s}}g_{\mathbf{s}}c_{\mathbf{s}}c_{\mathbf{s}}c_{\mathbf{s}}c_{\mathbf{s}}g_{\mathbf{s}}c_{\mathbf{s}}G_{\mathbf{s}}G_{\mathbf{s}}C_{\mathbf{s}}\mathbf{T}$
ļ	+		520	
			95B 521	$\begin{bmatrix} \mathbf{C_s} \mathbf{A_s} \mathbf{T_s} \mathbf{G_s} \mathbf{t_s} \mathbf{g_s} \mathbf{c_s} \mathbf{c_s} \mathbf{c_s} \mathbf{c_s} \mathbf{g_s} \mathbf{c_s} \mathbf{G_s} \mathbf{G_s} \mathbf{C_s} \mathbf{t} \end{bmatrix}$
	1		95C	$C_{\mathbf{O}}A_{\mathbf{O}}T_{\mathbf{O}}G_{\mathbf{O}}t_{\mathbf{S}}g_{\mathbf{S}}c_{\mathbf{S}}c_{\mathbf{S}}c_{\mathbf{S}}c_{\mathbf{S}}g_{\mathbf{S}}c_{\mathbf{S}}G_{\mathbf{O}}G_{\mathbf{O}}$
	i i		<u>522</u>	COL
	 		95D	
			523	$\begin{bmatrix} c_s a_s t_s g_s t_s g_s c_s c_s c_s c_s g_s c_s g_s g_s c_s t \\ \end{bmatrix}$
1281	96	AGGGAGGAGCGCCAG	96A	$\mathbf{A_sG_sG_sG_s}\mathbf{a_sg_sg_sa_sg_sc_sg_sg_sC_sC_sA_sG}$
			524	
			96B	$\mathbf{A_sG_sG_sG_s}$ $\mathbf{G_sG_s}$ $\mathbf{g_sg_s}$ $\mathbf{g_sG_s}$ $\mathbf{g_sG_s}$ $\mathbf{G_sG_s}$ $\mathbf{G_sG_s}$ $\mathbf{G_sG_s}$
	<u> </u>		<u>525</u>	
			96C	$A_{\mathbf{O}}G_{\mathbf{O}}G_{\mathbf{O}}G_{\mathbf{O}}G_{\mathbf{O}}G_{\mathbf{S}}g_{\mathbf{S}}g_{\mathbf{S}}g_{\mathbf{S}}g_{\mathbf{S}}g_{\mathbf{S}}g_{\mathbf{S}}G_{\mathbf{O}}G_{\mathbf{O}}$
			<u>526</u>	$A_{\mathbf{O}}G$
			96D	$a_sg_sg_sg_sa_sg_sg_sa_sg_sc_sg_sg_sc_sc_sa_sg$
	<u> </u>		527	
1297	97	CCACTGCCTTTTTCTG	97A	$C_sC_sA_sC_st_sg_sc_sc_st_st_st_st_sT_sC_sT_sG$
			528	
			97B	$C_sC_sA_sC_st_sg_sc_sc_st_st_st_st_sT_sC_sT_sg$
	-		529	
			97C	$C_{\mathbf{O}}C_{\mathbf{O}}A_{\mathbf{O}}C_{\mathbf{O}}t_{\mathbf{S}}g_{\mathbf{S}}c_{\mathbf{S}}c_{\mathbf{S}}t_{\mathbf{S}}t_{\mathbf{S}}t_{\mathbf{S}}t_{\mathbf{S}}T_{\mathbf{O}}C_{\mathbf{O}}T$
			<u>530</u>	$\mathbf{O}^{\mathbf{G}}$
			97D	$c_s c_s a_s c_s t_s g_s c_s c_s t_s t_s t_s t_s t_s c_s t_s g$
			531	
1313	98	TTAAAAAGGATTTAGG	98A	$\mathbf{T_sT_sA_sA_s}$ $\mathbf{A_sa_sa_sa_sg_sg_sa_st_st_sT_sA_sG_sG}$
	<u> </u>		532	
			98B	$T_{\mathbf{S}}T_{\mathbf{S}}A_{\mathbf{S}}A_{\mathbf{S}}a_{\mathbf{S}}a_{\mathbf{S}}a_{\mathbf{S}}a_{\mathbf{S}}g_{\mathbf{S}}g_{\mathbf{S}}a_{\mathbf{S}}t_{\mathbf{S}}t_{\mathbf{S}}T_{\mathbf{S}}A_{\mathbf{S}}G_{\mathbf{S}}g$
			533	
			98C	$\mid \mathbf{T_OT_OA_OA_O} a_s a_s a_s g_s g_s a_s t_s t_s \mathbf{T_OA_OG} \mid$
			<u>534</u>	oG
			98D	$t_s t_s a_s a_s a_s a_s a_s a_s g_s g_s a_s t_s t_s t_s a_s g_s g$
	<u> </u>		535	
1329	99	CATCGAGCCAAGTCAT	99A	$\left C_{\mathbf{s}} \mathbf{A}_{\mathbf{s}} T_{\mathbf{s}} C_{\mathbf{s}} \mathbf{g}_{\mathbf{s}} \mathbf{a}_{\mathbf{s}} \mathbf{g}_{\mathbf{s}} \mathbf{c}_{\mathbf{s}} \mathbf{c}_{\mathbf{s}} \mathbf{a}_{\mathbf{s}} \mathbf{a}_{\mathbf{s}} \mathbf{g}_{\mathbf{s}} T_{\mathbf{s}} C_{\mathbf{s}} \mathbf{A}_{\mathbf{s}} T \right $
	<u></u>	L	<u>536</u>	

	.,	<u></u>	·	
			99B 537	$C_{\mathbf{S}}\mathbf{A}_{\mathbf{S}}\mathbf{T}_{\mathbf{S}}C_{\mathbf{S}}\mathbf{g}_{\mathbf{S}}\mathbf{a}_{\mathbf{S}}\mathbf{g}_{\mathbf{S}}\mathbf{c}_{\mathbf{S}}\mathbf{c}_{\mathbf{S}}\mathbf{a}_{\mathbf{S}}\mathbf{a}_{\mathbf{S}}\mathbf{g}_{\mathbf{S}}\mathbf{T}_{\mathbf{S}}\mathbf{C}_{\mathbf{S}}\mathbf{A}_{\mathbf{S}}\mathbf{t}$
	 		99C	$C_{\mathbf{O}}A_{\mathbf{O}}T_{\mathbf{O}}C_{\mathbf{O}}g_{s}a_{s}g_{s}c_{s}c_{s}a_{s}a_{s}g_{s}T_{\mathbf{O}}C_{\mathbf{O}}$
			538	
				A _O T
			99D	$c_s a_s t_s c_s g_s a_s g_s c_s c_s a_s a_s g_s t_s c_s a_s t$
			539	
1345	100	AGCCAGTCCCCCACAG	100	$A_{\mathbf{s}}G_{\mathbf{s}}C_{\mathbf{s}}C_{\mathbf{s}}a_{\mathbf{s}}g_{\mathbf{s}}t_{\mathbf{s}}c_{\mathbf{s}}c_{\mathbf{s}}c_{\mathbf{s}}c_{\mathbf{s}}c_{\mathbf{s}}c_{\mathbf{s}}A_{\mathbf{s}}C_{\mathbf{s}}A_{\mathbf{s}}G$
			A	
	ļ		<u>540</u>	
			100B	$A_{\mathbf{S}}G_{\mathbf{S}}C_{\mathbf{S}}C_{\mathbf{S}}a_{\mathbf{S}}g_{\mathbf{S}}t_{\mathbf{S}}c_{\mathbf{S}}c_{\mathbf{S}}c_{\mathbf{S}}c_{\mathbf{S}}c_{\mathbf{S}}A_{\mathbf{S}}C_{\mathbf{S}}A_{\mathbf{S}}g$
			541	
			100C	$A_{\mathbf{O}}G_{\mathbf{O}}C_{\mathbf{O}}C_{\mathbf{O}}a_{\mathbf{S}}g_{\mathbf{S}}t_{\mathbf{S}}c_{\mathbf{S}}c_{\mathbf{S}}c_{\mathbf{S}}c_{\mathbf{S}}c_{\mathbf{S}}A_{\mathbf{O}}C_{\mathbf{O}}$
			<u>542</u>	A _O G
			100	$a_sg_sc_sc_sa_sg_st_sc_sc_sc_sc_sc_sa_sc_sa_sg$
			Ð	0-0 0 0 0-0 0 0 0 0 0 0 0 0
<u> </u>	<u></u>		<u>543</u>	
1361	101	CGGCCTGCAGCAGCCC	101	$C_sG_sG_sC_sc_st_sg_sc_sa_sg_sc_sa_sG_sC_sC_sC$
			A	
			<u>544</u>	
			101B	$C_sG_sG_sC_sc_st_sg_sc_sa_sg_sc_sa_sG_sC_sc_sc$
	ļ		545	
			101C	$\mid C_{\mathbf{O}}G_{\mathbf{O}}G_{\mathbf{O}}C_{\mathbf{O}}C_{\mathbf{S}}t_{\mathbf{S}}g_{\mathbf{S}}C_{\mathbf{S}}a_{\mathbf{S}}g_{\mathbf{S}}C_{\mathbf{S}}a_{\mathbf{S}}G_{\mathbf{O}}C_{\mathbf{O}} \mid$
			<u>546</u>	c_0c
			101	$c_s g_s g_s c_s c_s t_s g_s c_s a_s g_s c_s a_s g_s c_s c_s c_s c_s$
			Ð	30303 3 303 3 303 3 303 3
			<u>547</u>	·
1377	102	TGGGCTGACAGACACA	102	$T_sG_sG_sG_sc_st_sg_sa_sc_sa_sg_sa_sC_sA_sC_sA$
			A	
		•	<u>548</u>	
			102B	$T_sG_sG_sG_sc_st_sg_sa_sc_sa_sg_sa_sC_sA_sC_sa$
			<u>549</u>	
			102C	$T_{\mathbf{O}}G_{\mathbf{O}}G_{\mathbf{O}}G_{\mathbf{O}}G_{\mathbf{S}}G_{\mathbf{S}}G_{\mathbf{S}}G_{\mathbf{S}}G_{\mathbf{S}}G_{\mathbf{S}}G_{\mathbf{S}}G_{\mathbf{S}}G_{\mathbf{S}}G_{\mathbf{S}}G_{\mathbf{S}}G_{\mathbf{O}}G_{\mathbf{O}}$
			<u>550</u>	C _O A
			102	$t_S g_S g_S g_S c_S t_S g_S a_S c_S a_S g_S a_S c_S a_S c_S a$
			Ð	0 0 0 0 0 0 0 0 0 0 0 0
			<u>551</u>	
1393	103	TGACAGATGTGAAGGT	103	$T_{\mathbf{s}}G_{\mathbf{s}}A_{\mathbf{s}}C_{\mathbf{s}}a_{\mathbf{s}}g_{\mathbf{s}}a_{\mathbf{s}}t_{\mathbf{s}}g_{\mathbf{s}}t_{\mathbf{s}}g_{\mathbf{s}}a_{\mathbf{s}}A_{\mathbf{s}}G_{\mathbf{s}}G_{\mathbf{s}}T$
			A	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
			<u>552</u>	

			103B 553	$\mathbf{T_{S}G_{S}A_{S}C_{S}}\mathbf{a_{S}g_{S}}\mathbf{a_{S}t_{S}g_{S}t_{S}g_{S}}\mathbf{a_{S}A_{S}G_{S}G_{S}t}$
	_		103C	$T_{\mathbf{O}}G_{\mathbf{O}}A_{\mathbf{O}}C_{\mathbf{O}}a_{\mathbf{S}}g_{\mathbf{S}}a_{\mathbf{S}}t_{\mathbf{S}}g_{\mathbf{S}}t_{\mathbf{S}}g_{\mathbf{S}}a_{\mathbf{S}}A_{\mathbf{O}}G_{\mathbf{O}}$
			<u>554</u>	$G_{\mathbf{O}}T$
			103	$t_s g_s a_s c_s a_s g_s a_s t_s g_s t_s g_s a_s a_s g_s g_s t$
			Đ	
	<u> </u>		555	1 1000000000000000000000000000000000000
1409	104	CCCCGTGTGGAGAACG	104	$C_sC_sC_sC_sg_st_sg_st_sg_sg_sa_sg_sA_sA_sC_sG$
			A	
	ļ		<u>556</u>	
	1		104B	$C_sC_sC_sC_sg_st_sg_st_sg_sg_sa_sg_sA_sA_sC_sg$
	ļ		557	
			1004	$C_{\mathbf{O}}C_{\mathbf{O}}C_{\mathbf{O}}C_{\mathbf{O}}C_{\mathbf{S}_{S}}t_{\mathbf{S}}g_{\mathbf{S}}t_{\mathbf{S}}g_{\mathbf{S}}g_{\mathbf{S}}a_{\mathbf{S}}g_{\mathbf{S}}A_{\mathbf{O}}A_{\mathbf{O}}$
•			C	$C_{\mathbf{O}}$ G
	-	:	558 104	
			104	$c_s c_s c_s c_s g_s t_s g_s t_s g_s g_s a_s g_s a_s a_s c_s g$
			559	
1425	105	GCGGACTGCGTCTCTC	105	$G_sC_sG_sG_sa_sc_st_sg_sc_sg_st_sc_sT_sC_sT_sC$
			A	
			560	
			105B	$G_sC_sG_sG_sa_sc_st_sg_sc_sg_st_sc_sT_sC_sT_sc$
			561	. 2 . 2 . 2 . 2 . 2 . 2 . 2 . 2 . 2 . 2
			105C	$G_{\mathbf{O}}C_{\mathbf{O}}G_{\mathbf{O}}G_{\mathbf{O}}a_{\mathbf{S}}c_{\mathbf{S}}t_{\mathbf{S}}g_{\mathbf{S}}c_{\mathbf{S}}g_{\mathbf{S}}t_{\mathbf{S}}c_{\mathbf{S}}T_{\mathbf{O}}C_{\mathbf{O}}$
			<u>562</u>	T _O C
			105	
			Đ	$g_s c_s g_s g_s a_s c_s t_s g_s c_s g_s t_s c_s t_s c_s t_s c$
			563	
1441	106	GAAAGCGGGGACCTGG	106	$G_sA_sA_sA_sg_sc_sg_sg_sg_sg_sa_sc_sC_sT_sG_sG$
			A	~\$`~\$`~\$`~\$\\\\\\\\\\\\\\\\\\\\\\\\\\\\
			564	
	t		106B	$G_{\mathbf{S}}A_{\mathbf{S}}A_{\mathbf{S}}A_{\mathbf{S}}g_{\mathbf{S}}c_{\mathbf{S}}g_{\mathbf{S}}g_{\mathbf{S}}g_{\mathbf{S}}g_{\mathbf{S}}a_{\mathbf{S}}c_{\mathbf{S}}C_{\mathbf{S}}T_{\mathbf{S}}G_{\mathbf{S}}g$
•			565	2 2 2 202 20202020202.2.2.2 2.20
			106C	$G_{\mathbf{O}}A_{\mathbf{O}}A_{\mathbf{O}}A_{\mathbf{O}}g_{\mathbf{S}}c_{\mathbf{S}}g_{\mathbf{S}}g_{\mathbf{S}}g_{\mathbf{S}}g_{\mathbf{S}}a_{\mathbf{S}}c_{\mathbf{S}}C_{\mathbf{O}}T_{\mathbf{O}}$
			<u>566</u>	G _O G
			106	$g_s a_s a_s g_s c_s g_s g_s g_s g_s a_s c_s c_s t_s g_s g$
			Ð	-0 0 0 0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-
			<u>567</u>	

	T ::==			
1457	107	AGCTGCTGCCTCCAAA	107 A 568	$\begin{bmatrix} \mathbf{A_s} \mathbf{G_s} \mathbf{C_s} \mathbf{T_s} \mathbf{g_s} \mathbf{c_s} \mathbf{t_s} \mathbf{g_s} \mathbf{c_s} \mathbf{t_s} \mathbf{c_s} \mathbf{C_s} \mathbf{A_s} \mathbf{A_s} \mathbf{A} \end{bmatrix}$
			107B 569	$\mathbf{A_sG_sC_sT_sg_sc_st_sg_sc_st_sc_sC_sA_sA_s}$
			107C 570	$\begin{array}{c} \mathbf{A_O} \mathbf{G_O} \mathbf{C_O} \mathbf{T_O} \mathbf{g_S} \mathbf{c_S} \mathbf{t_S} \mathbf{g_S} \mathbf{c_S} \mathbf{c_S} \mathbf{t_S} \mathbf{c_S} \mathbf{C_O} \mathbf{A_O} \\ \mathbf{A_O} \mathbf{A} \end{array}$
			107 D 571	$a_{\mathbf{s}}g_{\mathbf{s}}c_{\mathbf{s}}t_{\mathbf{s}}g_{\mathbf{s}}c_{\mathbf{s}}t_{\mathbf{s}}g_{\mathbf{s}}c_{\mathbf{s}}c_{\mathbf{s}}c_{\mathbf{s}}c_{\mathbf{s}}c_{\mathbf{s}}a_{\mathbf{s}}a_{\mathbf{s}}$
1473	108	ACTTCAGCCCTGCGGG	108 A 572	$\mathbf{A_sC_sT_sT_s}\mathbf{C_s}\mathbf{a_s}\mathbf{g_s}\mathbf{c_s}\mathbf{c_s}\mathbf{c_s}\mathbf{c_s}\mathbf{t_s}\mathbf{g_s}\mathbf{C_s}\mathbf{G_s}\mathbf{G_s}\mathbf{G}$
			108B 573	$\mathbf{A_sC_sT_sT_s}\mathbf{C_s}\mathbf{a_s}\mathbf{g_s}\mathbf{c_s}\mathbf{c_s}\mathbf{c_s}\mathbf{c_s}\mathbf{t_s}\mathbf{g_s}\mathbf{C_s}\mathbf{G_s}\mathbf{G_s}\mathbf{g}$
			108C 574	$\begin{bmatrix} \mathbf{A_O} \mathbf{C_O} \mathbf{T_O} \mathbf{T_O} \mathbf{c_S} \mathbf{a_S} \mathbf{g_S} \mathbf{c_S} \mathbf{c_S} \mathbf{c_S} \mathbf{t_S} \mathbf{g_S} \mathbf{C_O} \mathbf{G_O} \\ \mathbf{G_O} \mathbf{G} \end{bmatrix}$
			108 D 575	$a_{\mathbf{S}}c_{\mathbf{S}}t_{\mathbf{S}}t_{\mathbf{S}}c_{\mathbf{S}}a_{\mathbf{S}}g_{\mathbf{S}}c_{\mathbf{S}}c_{\mathbf{S}}c_{\mathbf{S}}t_{\mathbf{S}}g_{\mathbf{S}}c_{\mathbf{S}}g_{\mathbf{S}}g_{\mathbf{S}}g$
1489	109	CATCATCTTACGCCAG	109 A 576	$C_sA_sT_sC_sa_st_sc_st_st_sa_sc_sg_sC_sC_sA_sG$
·····			109B 577	$\mathbf{C_s}\mathbf{A_s}\mathbf{T_s}\mathbf{C_s}\mathbf{a_s}\mathbf{t_s}\mathbf{c_s}\mathbf{t_s}\mathbf{t_s}\mathbf{a_s}\mathbf{c_s}\mathbf{g_s}\mathbf{C_s}\mathbf{C_s}\mathbf{A_s}\mathbf{g}$
			109C 578	$\mathbf{C_O A_O T_O C_O a_s t_s c_s t_s t_s a_s c_s g_s C_O C_O A}$ $\mathbf{O}^{\mathbf{G}}$
			109 D 579	$c_s a_s t_s c_s a_s t_s c_s t_s t_s a_s c_s g_s c_s c_s a_s g$
1505	110	GAGGGCGAATCAAATC	110 A 580	$\mathbf{G_{S}A_{S}G_{S}G_{S}g_{S}c_{S}g_{S}a_{S}a_{S}t_{S}c_{S}a_{S}A_{S}A_{S}T_{S}C}$
			110B 581	$\mathbf{G_s}\mathbf{A_s}\mathbf{G_s}\mathbf{G_s}\mathbf{g_s}\mathbf{c_s}\mathbf{g_s}\mathbf{a_s}\mathbf{a_s}\mathbf{t_s}\mathbf{c_s}\mathbf{a_s}\mathbf{A_s}\mathbf{A_s}\mathbf{T_s}\mathbf{c}$
			110C 582	$\begin{array}{c} \mathbf{G_O}\mathbf{A_O}\mathbf{G_O}\mathbf{G_O}\mathbf{g_S}\mathbf{c_S}\mathbf{g_S}\mathbf{a_S}\mathbf{a_S}\mathbf{t_S}\mathbf{c_S}\mathbf{a_S}\mathbf{A_O}\mathbf{A_O} \\ \mathbf{T_O}\mathbf{C} \end{array}$
			110 D 583	g _s a _s g _s g _s g _s c _s g _s a _s a _s t _s c _s a _s a _s a _s t _s c

1521	111	GCTCTATGACAGGGAG	111	G C T C tatgacag G G A G
	***		A	$G_{\mathbf{s}}C_{\mathbf{s}}T_{\mathbf{s}}C_{\mathbf{s}}t_{\mathbf{s}}a_{\mathbf{s}}t_{\mathbf{s}}g_{\mathbf{s}}a_{\mathbf{s}}c_{\mathbf{s}}a_{\mathbf{s}}g_{\mathbf{s}}G_{\mathbf{s}}G_{\mathbf{s}}A_{\mathbf{s}}G$
			584	
	 		111B	$G_sC_sT_sC_st_sa_st_sg_sa_sc_sa_sg_sG_sG_sA_sg$
			<u>585</u>	~\$~\$~\$C\$CSUSTSBSUSTSBSV\$V\$CF1\$B
			111C	$\mid \mathbf{G_O}\mathbf{C_O}\mathbf{T_O}\mathbf{C_O}\mathbf{t_S}\mathbf{a_S}\mathbf{t_S}\mathbf{g_S}\mathbf{a_S}\mathbf{c_S}\mathbf{a_S}\mathbf{g_S}\mathbf{G_O}\mathbf{G_O}\mid$
			<u>586</u>	$A_{\mathbf{O}}G$
			111	$g_sc_st_sc_st_sa_st_sg_sa_sc_sa_sg_sg_sg_sa_sg$
			Ð	
			<u>587</u>	
1537	112	AACAATCCACCCTGCA	112	$A_sA_sC_sA_sa_st_sc_sc_sa_sc_sc_sc_sT_sG_sC_sA$
			A	
			<u>588</u>	
			112B	$A_sA_sC_sA_sa_st_sc_sc_sa_sc_sc_sc_sT_sG_sC_sa$
			<u>589</u>	
			112C	$A_OA_OC_OA_Oa_St_Sc_Sc_Sa_Sc_Sc_SC_ST_OG_O$
			<u>590</u>	$C_{\mathbf{O}^{\mathbf{A}}}$
			112	$a_S a_S c_S a_S a_S t_S c_S c_S a_S c_S c_S c_S t_S g_S c_S a$
			Ð	
1552	112	TTTCCACCCAACCTCT	591	
1553	113	TTTCCAGCGAAGCTGT	113	$\left[\mathbf{T_sT_sT_sC_s} \mathbf{c_s} \mathbf{a_s} \mathbf{g_s} \mathbf{c_s} \mathbf{g_s} \mathbf{a_s} \mathbf{a_s} \mathbf{g_s} \mathbf{C_sT_s} \mathbf{G_s} \mathbf{T} \right]$
			A	
			592	
			113B	$\left \mathbf{T_sT_sT_sC_s} \mathbf{c_s} \mathbf{a_s} \mathbf{g_s} \mathbf{c_s} \mathbf{g_s} \mathbf{a_s} \mathbf{a_s} \mathbf{g_s} \mathbf{C_sT_s} \mathbf{G_s} \mathbf{t} \right $
			593	
			113C	$\left[\mathbf{T_OT_OT_OC_Oc_sa_sg_sc_sg_sa_sa_sg_sC_OT_O} \right]$
			<u>594</u>	$G_{\mathbf{O}}$ T
			113	$t_s t_s c_s c_s a_s g_s c_s g_s a_s a_s g_s c_s t_s g_s t$
			Đ	8.8.8.8.8.808.808.828.808.
			595	
1569	114	AGATGACCTCCAGAGG	114	$\mathbf{A_sG_sA_sT_sg_sa_sc_sc_st_sc_sc_sa_sG_sA_sG_sG}$
			A	
			596	
			114B	$A_sG_sA_sT_sg_sa_sc_sc_st_sc_sc_sa_sG_sA_sG_sg$
			597	
		u 12	114C	$A_OG_OA_OT_Og_Sa_Sc_St_Sc_Sc_Sa_SG_OA_O$
			<u>598</u>	
				GOG
			114	$a_s g_s a_s t_s g_s a_s c_s c_s t_s c_s c_s a_s g_s a_s g_s g_s$
			Đ	
			<u>599</u>	

				T
1585	115	TTCTCAGGAACAGCCG	115	$ T_{\mathbf{s}} T_{\mathbf{s}} C_{\mathbf{s}} T_{\mathbf{s}} c_{\mathbf{s}} a_{\mathbf{s}} g_{\mathbf{s}} g_{\mathbf{s}} a_{\mathbf{s}} a_{\mathbf{s}} c_{\mathbf{s}} a_{\mathbf{s}} G_{\mathbf{s}} C_{\mathbf{s}} C_{\mathbf{s}} G$
			A	
			<u>600</u>	
			115B	$T_sT_sC_sT_sc_sa_sg_sg_sa_sa_sc_sa_sG_sC_sC_sg$
			<u>601</u>	
			115C	$T_{\mathbf{O}}T_{\mathbf{O}}C_{\mathbf{O}}T_{\mathbf{O}}c_{\mathbf{S}}a_{\mathbf{S}}g_{\mathbf{S}}g_{\mathbf{S}}a_{\mathbf{S}}a_{\mathbf{S}}c_{\mathbf{S}}a_{\mathbf{S}}G_{\mathbf{O}}C_{\mathbf{O}}$
			<u>602</u>	c_0 G
			115	$t_s t_s c_s t_s c_s a_s g_s g_s a_s a_s c_s a_s g_s c_s c_s g$
			Ð	33 3 3 3 3 3 3 3 3 3 3 3
	ļ		603	
1601	116	ATGACAGGCTTTTTAT	116	$\mathbf{A_{S}T_{S}G_{S}A_{S}c_{S}a_{S}g_{S}g_{S}c_{S}t_{S}t_{S}t_{S}T_{S}T_{S}A_{S}T}$
			A	3 3 3 3 3 3 3 3 3 3 3 3
			<u>604</u>	
			116B	$\mathbf{A_sT_sG_sA_s}\mathbf{c_s}\mathbf{a_s}\mathbf{g_s}\mathbf{g_s}\mathbf{c_s}\mathbf{t_s}\mathbf{t_s}\mathbf{t_s}\mathbf{T_s}\mathbf{T_s}\mathbf{A_s}\mathbf{t}$
			605	3 3 3 3 3 5 5 5 5 5 5 5 5
			116C	$\mathbf{A_O}\mathbf{T_O}\mathbf{G_O}\mathbf{A_O}\mathbf{c_S}\mathbf{a_S}\mathbf{g_S}\mathbf{g_S}\mathbf{c_S}\mathbf{t_S}\mathbf{t_S}\mathbf{t_S}\mathbf{T_O}\mathbf{T_O}\mathbf{A}$
			<u>606</u>	
	_		ļ <u>.</u>	OT
	-		116	$a_s t_s g_s a_s c_s a_s g_s g_s c_s t_s t_s t_s t_s t_s a_s t$
			Ð	
			<u>607</u>	

Please amend Table 2 starting on page 84 as follows:

Table 2 Oligomeric compounds of the invention

Oligomeric compounds were evaluated for their potential to knockdown Survivin mRNA in 15PC3 cells. The data are presented as percentage downregulation relative to mock transfected cells. Transcript steady state was monitored by Real-time PCR and normalised to the GAPDH transcript steady state. Note that all LNA C are 5'-Methyl-Cytosine.

Target site	SeqID NO:	Oligomeric compound Sequence 5'-3'	SeqID+ Design NO:	Specific design of Oligomeric compound Capital letters β-D-oxy-LNA s=phosphorthioate O=-O-P(O) ₂ -O- Small letters DNA sugar	% Inhibi-tion at 25 nM	% Inhibi-tion at 5 nM oligo.
62(c)	117	AGGCAGGGGGCAACGT	117 A 608	$A_sG_sG_sC_sa_sg_sg_sg_sg_sg_sc_sa_sA_sC_sG_sT$	<20	<20
			117 B	$A_sG_sG_sC_sa_sg_sg_sg_sg_sg_sc_sa_sA_sC_sG_st$		

	Т		600		T	
ļ	 		609	1 0 0 0		
			117 C	$A_{\mathbf{O}}G_{\mathbf{O}}G_{\mathbf{O}}C_{\mathbf{O}}a_{s}g_{s}g_{s}g_{s}g_{s}g_{s}c_{s}a_{s}A_{\mathbf{O}}C$		
			1	$O_{\mathbf{O}}$		
	 		610			
			117	$a_sg_sg_sc_sa_sg_sg_sg_sg_sc_sa_sa_sc_sg_st$		
			Đ			
110()	110		611			
119(c)	118	CCAAGAAGGCCAGTT	118	$C_sC_sA_sA_sg_sa_sa_sg_sg_sc_sc_sA_sG_sT_sT$	87	33
			A			
			612			
į			118	$C_sC_sA_sA_sg_sa_sa_sg_sg_sc_sc_sA_sG_sT_st$		
			₿		l	
			613			
			118	$\begin{bmatrix} C_{\mathbf{O}}C_{\mathbf{O}}A_{\mathbf{O}}A_{\mathbf{O}}g_{s}a_{s}a_{s}g_{s}g_{s}g_{s}c_{s}c_{s}A_{\mathbf{O}}G_{\mathbf{O}} \end{bmatrix}$		
			E	TOT		
			614	0		
			118	$c_sc_sa_sa_sg_sa_sa_sg_sg_sc_sc_sa_sg_st_st$		
			Ð			
			<u>615</u>			
190(c)	119	TGGCTCGTTCTCAGTG	119	$T_sG_sG_sC_st_sc_sg_st_st_sc_st_sc_sA_sG_sT_sG$	79	27
			A	_		•
			616			
			119	T _s G _s G _s C _s t _s c _s g _s t _s t _s c _s t _s c _s t _s c _s A _s G _s T _s g		
			₽			
			617			
			119	$T_{O}G_{O}G_{O}C_{O}t_{s}c_{s}g_{s}t_{s}t_{s}c_{s}t_{s}c_{s}A_{O}G_{O}T$		
			E	·		
			618	$o_{\mathbf{G}}$		
	1		119	$t_sg_sg_sc_st_sc_sg_st_st_sc_st_sc_sa_sg_st_sg$		
			Ð	36363 3 3 363 3 3 3 3 3 3 3 3 3 3 3 3 3		
			619			
193(c)	120	GTCTGGCTCGTTCTCA	120	$G_sT_sC_sT_sg_sg_sc_st_sc_sg_st_st_sC_sT_sC_sA$	84	47
. ,	1		A	0,1,0,1,0,0,0,0,0,0,0,0,1,0,1,0,1,0,1,0		''
			620			
	 		120	$G_sT_sC_sT_sg_sg_sc_st_sc_sg_st_st_sC_sT_sC_sa$		
			B	~5~5~5~50505~5~50505°5°5°5°5°5°5°5°5°5°5		
			621			
			120	GoToCoToggctcgttCoTo		-
			E	$G_{\mathbf{O}} T_{\mathbf{O}} C_{\mathbf{O}} T_{\mathbf{O}} g_s g_s c_s t_s c_s g_s t_s t_s C_{\mathbf{O}} T_{\mathbf{O}}$		
			622	COA		
			112	g to tog g o to g tt o to o		-
			I	$g_s t_s c_s t_s g_s g_s c_s t_s c_s g_s t_s t_s c_s t_s c_s a$		
	<u> </u>	<u> </u>	Đ	<u> </u>		

			623			
194(c)	121	AGTCTGGCTCGTTCTC	121	$A_sG_sT_sC_st_sg_sg_sc_st_sc_sg_st_sT_sC_sT_sC$	75	49
			A			ĺ
			<u>624</u>			
<u>-</u>			121	$A_sG_sT_sC_st_sg_sg_sc_st_sc_sg_st_sT_sC_sT_sc$		
			₽			
			<u>625</u>			
			121	$A_{\mathbf{O}}G_{\mathbf{O}}T_{\mathbf{O}}C_{\mathbf{O}}t_{s}g_{s}g_{s}c_{s}t_{s}c_{s}g_{s}t_{s}T_{\mathbf{O}}C_{\mathbf{O}}$		
			ϵ	$T_{\mathbf{O}}^{\mathbf{C}}$		
			626		ļ	
			121	$a_sg_st_sc_st_sg_sg_sc_st_sc_sg_st_st_sc_st_sc$		
			Đ			
			<u>627</u>			
168(c)	122	TGGATGAAGCCAGCCT	122	$T_sG_sG_sA_st_sg_sa_sa_sg_sc_sc_sa_sG_sC_sC_sT$	67	41
			A			
			628			
			122	$T_sG_sG_sA_st_sg_sa_sa_sg_sc_sc_sa_sG_sC_sC_st$		
			B			
			629	T C C A		-
			122	$T_{\mathbf{O}}G_{\mathbf{O}}G_{\mathbf{O}}A_{\mathbf{O}}t_{s}g_{s}a_{s}a_{s}g_{s}c_{s}c_{s}a_{s}G_{\mathbf{O}}C_{\mathbf{O}}$		
			€ 630	$C_{\mathbf{O}}$ T		
			122	t a a a t a a a a a a a a a a a		
			Đ	$t_s g_s g_s a_s t_s g_s a_s a_s g_s c_s c_s a_s g_s c_s c_s t$		
			631			
215(c)	123	AGCAGAAGAAACACTG	123	$A_sG_sC_sA_sg_sa_sa_sg_sa_sa_sa_sc_sA_sC_sT_sG$	85	26
- (.)			A	1150505115E5ususE5usususus05115051150	03	20
			632			
			123	$A_sG_sC_sA_sg_sa_sa_sg_sa_sa_sc_sA_sC_sT_sg$		+
			₽	2222222222		
			633			
			123	AOGOCOAOgsasasgsasasascsAOCO		
			G	T_0G		
			634	100		
			123	$a_sg_sc_sa_sg_sa_sa_sg_sa_sa_sa_sc_sa_sc_st_sg$		
			Ð			
			<u>635</u>			
261(c)	124	TCCTCTATGGGGTCGT	124	$T_sC_sC_sT_sc_st_sa_st_sg_sg_sg_sT_sC_sG_sT$	23	<20
			A			
			<u>636</u>			
			124	$T_sC_sC_sT_sc_st_sa_st_sg_sg_sg_sT_sC_sG_st$		
		1	₿			

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Γ	ı	T	627			
		 	637	T. C. C. T. states and T. C.		
			124	$T_{\mathbf{O}}C_{\mathbf{O}}C_{\mathbf{O}}T_{\mathbf{O}}C_{\mathbf{s}}t_{\mathbf{s}}a_{\mathbf{s}}t_{\mathbf{s}}g_{\mathbf{s}}g_{\mathbf{s}}g_{\mathbf{s}}g_{\mathbf{s}}T_{\mathbf{O}}C_{\mathbf{O}}$		
			E	$G_{\mathbf{O}}$ T		
			<u>638</u>		ļ	
			124	$t_sc_sc_st_sc_st_sa_st_sg_sg_sg_st_sc_sg_st$		
			Đ			
			639			
286(c)	125	GCAACCGGACGAATGC	125	$G_sC_sA_sA_sc_sc_sg_sg_sa_sc_sg_sa_sA_sT_sG_sC$	64	<20
			A			
			<u>640</u>			
			125	$G_sC_sA_sA_sc_sc_sg_sg_sa_sc_sg_sa_sA_sT_sG_sc$		
			₽			
	ļ		641			
			125	$G_{O}C_{O}A_{O}A_{O}c_{s}c_{s}g_{s}g_{s}a_{s}c_{s}g_{s}a_{s}A_{O}T_{O}$		
			E			
			642	$G_{\mathbf{O}}^{\mathbf{C}}$		
			125	g _s c _s a _s a _s c _s c _s g _s g _s a _s c _s g _s a _s a _s t _s g _s c		
			Đ	P2222222222222222		
]		643			
267(c)	126	TTATGTTCCTCTATGG	126	$T_sT_sA_sT_sg_st_st_sc_sc_st_sc_st_sA_sT_sG_sG$	53	<20
207(0)	```		A	151575158515050515051571515050		1.20
			644			
	ļ		126	TTATattastatATCa	!	_
			B	$T_sT_sA_sT_sg_st_st_sc_sc_st_sA_sT_sG_sg$		
			645	TO TO A TO C	-	
			126	$T_{\mathbf{O}}T_{\mathbf{O}}A_{\mathbf{O}}T_{\mathbf{O}}g_{s}t_{s}t_{s}c_{s}c_{s}t_{s}c_{s}t_{s}A_{\mathbf{O}}T_{\mathbf{O}}G$		
			E	O		
	ļ		646			
			126	$t_s t_s a_s t_s g_s t_s t_s c_s c_s t_s c_s t_s a_s t_s g_s g$		
		•	Đ			
			647			
325(c)	127	GGTTAATTCTTCAAAC	127	$G_sG_sT_sT_sa_sa_st_st_sc_st_sc_sA_sA_sA_sC$	17	<20
			A			•
			648			
			127	$G_sG_sT_sT_sa_sa_st_st_sc_st_st_sc_sA_sA_sA_sc$		
			₽			
			<u>649</u>			
			127	$G_{O}G_{O}T_{O}T_{O}a_{s}a_{s}t_{s}t_{s}c_{s}t_{s}t_{s}c_{s}A_{O}A_{O}A$		
			C			
ŀ			650	$ \mathbf{o_C} $		1
	<u> </u>		127	g _s g _s t _s t _s a _s a _s t _s t _s c _s t _s t _s c _s a _s a _s a _s c		
			l			
			127 Đ	$g_sg_st_st_sa_sa_st_st_sc_st_st_sc_sa_sa_sa_sc$		

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			651			
353(c)	128	CTCTGTCCAGTTTCAA	128	$C_sT_sC_sT_sg_st_sc_sc_sa_sg_st_st_sT_sC_sA_sA$	76	60
			A			
			652			
			128	$C_sT_sC_sT_sg_st_sc_sc_sa_sg_st_st_sT_sC_sA_sa$	77	
			B			
			653			
			128	$C_{\mathbf{O}}T_{\mathbf{O}}C_{\mathbf{O}}T_{\mathbf{O}}g_{s}t_{s}c_{s}c_{s}a_{s}g_{s}t_{s}t_{s}T_{\mathbf{O}}C_{\mathbf{O}}A$		
			E	O ^A		
	1		654	O ^A		
			128	$c_s t_s c_s t_s g_s t_s c_s c_s a_s g_s t_s t_s t_s c_s a_s a$		
			Ð			
			655			
375(c)	129	GCAATTTTGTTCTTGG	129	$G_sC_sA_sA_st_st_st_st_sg_st_st_sc_sT_sT_sG_sG$	73	49
			A			
			656			
			129	G _s C _s A _s A _s t _s t _s t _s t _s t _s t _s c _s T _s T _s G _s g		
			В			
			657		ļ	
	<u> </u>		129	$G_{O}C_{O}A_{O}A_{O}t_{s}t_{s}t_{s}t_{s}g_{s}t_{s}t_{s}c_{s}T_{O}T_{O}G$		
			E			
			658	$\mathbf{o}_{\mathbf{G}}$		
	1		129	$g_s c_s a_s a_s t_s t_s t_s t_s t_s g_s t_s t_s c_s t_s t_s g_s g$		
			Đ	Ø3 - 3 - 5 - 5 - 5 - 5 - 5 - 5 O 3 - 5 - 5 - 5 O 2 O		
			659			
464(c)	130	CTCAATCCATGGCAGC	130	$C_sT_sC_sA_sa_st_sc_sc_sa_st_sg_sg_sC_sA_sG_sC$	77	40
			A	-3-3-3-3-3-3-3-3-3-3-3		
			660			
	——		130	$C_sT_sC_sA_sa_st_sc_sc_sa_st_sg_sg_sC_sA_sG_sc$		
			В	+3-3-3-3-3-3-3-3-3-3-3-3-3-3-3-3-3-3-3-		
			661			
	 		130	$C_{\mathbf{O}}T_{\mathbf{O}}C_{\mathbf{O}}A_{\mathbf{O}}a_{s}t_{s}c_{s}c_{s}a_{s}t_{s}g_{s}g_{s}C_{\mathbf{O}}A_{\mathbf{O}}$		
			E			
			662	G_{OC}		
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			664			
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456(c)	135	ATGGCAGCCAGCTGCT	135	$A_{\mathbf{s}}\mathbf{T}_{\mathbf{s}}\mathbf{G}_{\mathbf{s}}\mathbf{G}_{\mathbf{s}}\mathbf{c}_{\mathbf{s}}\mathbf{a}_{\mathbf{s}}\mathbf{g}_{\mathbf{s}}\mathbf{c}_{\mathbf{s}}\mathbf{a}_{\mathbf{s}}\mathbf{g}_{\mathbf{s}}\mathbf{c}_{\mathbf{s}}\mathbf{a}_{\mathbf{s}}\mathbf{g}_{\mathbf{s}}\mathbf{c}_{\mathbf{s}}\mathbf{T}_{\mathbf{s}}\mathbf{G}_{\mathbf{s}}\mathbf{C}_{\mathbf{s}}$
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			683	
470(c)	136	AGAGGCCTCAATCCAT	136	$A_sG_sA_sG_sg_sC_sC_st_sC_sa_sa_st_sC_sC_sA_s$
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			136	$A_{\mathbf{S}}G_{\mathbf{S}}A_{\mathbf{S}}G_{\mathbf{S}}g_{\mathbf{S}}c_{\mathbf{S}}c_{\mathbf{S}}t_{\mathbf{S}}c_{\mathbf{S}}a_{\mathbf{S}}a_{\mathbf{S}}t_{\mathbf{S}}C_{\mathbf{S}}C_{\mathbf{S}}A_{\mathbf{S}}t$
			₽	
			<u>685</u>	
			136	$\mathbf{A_{O}G_{O}A_{O}G_{O}g_{s}c_{s}c_{s}t_{s}c_{s}a_{s}a_{s}t_{s}C_{O}C}$
			E	$O^{A_{O}T}$
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			136	$a_S g_S a_S g_S g_S c_S c_S t_S c_S a_S a_S t_S c_S c_S a_S t$
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	10-	0000000000000	687	
55(c)	137	GGGCAACGTCGGGGCA	137	$G_{\mathbf{s}}G_{\mathbf{s}}G_{\mathbf{s}}C_{\mathbf{s}}a_{\mathbf{s}}a_{\mathbf{s}}c_{\mathbf{s}}g_{\mathbf{s}}t_{\mathbf{s}}c_{\mathbf{s}}g_{\mathbf{s}}g_{\mathbf{s}}G_{\mathbf{s}}G_{\mathbf{s}}C_{\mathbf{s}}$
			A	A
	ļ		688	
			137	$ \mathbf{G_s} \mathbf{G_s} \mathbf{G_s} \mathbf{G_s} \mathbf{a_s} \mathbf{a_s} \mathbf{a_s} \mathbf{c_s} \mathbf{g_s} \mathbf{t_s} \mathbf{c_s} \mathbf{g_s} \mathbf{g_s} \mathbf{G_s} \mathbf{G_s} \mathbf{G_s}$
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			C	$G_{O}C_{O}A$
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			Đ	
66(2)	120	TOCCACCOCACCCCC	691	m c c c
66(c)	138	TGCCAGGCAGGGGCA	138	$\left \mathbf{T_sG_sC_sC_s} \mathbf{C_s} \mathbf{a_sg_sg_s} \mathbf{c_sa_sg_sg_s} \mathbf{g_sG_sG_s} \mathbf{C_s} \right $
			A	A
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	Т	T	693	
	 		138	TCCCccaaaaaaaaCCC
	1		138	$\left \begin{array}{ccc} \mathbf{T_sG_sC_sC_s} \mathbf{a_sg_sg_sG_sG_sG_sG_sC_s} \end{array} \right $
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			Đ	
			<u>695</u>	
140(c)	139	CCGGGGTGCAGGCGCA	139	$\left C_{\mathbf{s}}C_{\mathbf{s}}G_{\mathbf{s}}G_{\mathbf{s}}g_{\mathbf{s}}g_{\mathbf{s}}t_{\mathbf{s}}g_{\mathbf{s}}c_{\mathbf{s}}a_{\mathbf{s}}g_{\mathbf{s}}g_{\mathbf{s}}C_{\mathbf{s}}G_{\mathbf{s}}C_{\mathbf{s}} \right $
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			139	$\mid C_s C_s G_s G_s G_s G_s G_s G_s G_s G_s G_s G$
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			139	$C_{\mathbf{O}}C_{\mathbf{O}}G_{\mathbf{O}}G_{\mathbf{O}}G_{\mathbf{S}}G_{\mathbf$
			E	$G_{O}C_{O}A$
			698	300011
			139	$c_s c_s g_s g_s g_s g_s t_s g_s c_s a_s g_s g_s c_s g_s c_s a$
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			699	
148(c)	140	CATCCGCTCCGGGGTG	140	$C_{\mathbf{S}}\mathbf{A}_{\mathbf{S}}\mathbf{T}_{\mathbf{S}}C_{\mathbf{S}}\mathbf{c}_{\mathbf{S}}\mathbf{g}_{\mathbf{S}}\mathbf{c}_{\mathbf{S}}\mathbf{t}_{\mathbf{S}}\mathbf{c}_{\mathbf{S}}\mathbf{g}_{\mathbf{S}}\mathbf{g}_{\mathbf{S}}\mathbf{g}_{\mathbf{S}}\mathbf{G}_{\mathbf{S}}\mathbf{T}_{\mathbf{S}}$
` `			A	i l
			700	G
	1		140	$C_sA_sT_sC_sc_sg_sc_st_sc_sc_sg_sg_sG_sG_sT_s$
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			702	$G_{O}T_{O}G$
	-		140	CATCCCCTCCCCCC
			1	$\left[C_{S}A_{S}T_{S}C_{S}C_{S}G_{S}C_{S}T_{S}C_{S}C_{S}G_{S}G_{S}G_{S}G_{S}G_{S}G_{S}G_{S}G$
			Đ	$_{s}T_{s}G$
155()	141	CTCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC	703	C T C C
177(c)	141	GTGGGGCAGTGGATGA	141	$G_{\mathbf{S}}\mathbf{T}_{\mathbf{S}}G_{\mathbf{S}}G_{\mathbf{S}}g_{\mathbf{S}}g_{\mathbf{S}}g_{\mathbf{S}}c_{\mathbf{S}}a_{\mathbf{S}}g_{\mathbf{S}}t_{\mathbf{S}}g_{\mathbf{S}}g_{\mathbf{S}}\mathbf{A}_{\mathbf{S}}\mathbf{T}_{\mathbf{S}}G_{\mathbf{S}}$
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			704	
			141	$G_sT_sG_sG_sg_sg_sc_sa_sg_st_sg_sg_sA_sT_sG_s$
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			141	$G_{\mathbf{O}}T_{\mathbf{O}}G_{\mathbf{O}}G_{\mathbf{O}}G_{\mathbf{S}}G_{\mathbf$
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			707	
260(c)	142	CCTCTATGGGGTCGTC	142	$C_sC_sT_sC_st_sa_st_sg_sg_sg_st_sC_sG_sT_sC$
			A	3 3 3 3 3 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5
			708	
			142	$C_sC_sT_sC_st_sa_st_sg_sg_sg_st_sC_sG_sT_st$
			₽	3 3 3 3 5 5 5 5 5 5 5 5 5 5 5 5
			<u>709</u>	
			142	$C_{\mathbf{O}}C_{\mathbf{O}}T_{\mathbf{O}}C_{\mathbf{O}}t_{\mathbf{S}}a_{\mathbf{S}}t_{\mathbf{S}}g_{\mathbf{S}}g_{\mathbf{S}}g_{\mathbf{S}}t_{\mathbf{S}}C_{\mathbf{O}}G$
			E	$O_{\mathbf{O}}$
			<u>710</u>	0-0-
			142	$c_s c_s t_s c_s t_s a_s t_s g_s g_s g_s g_s t_s c_s g_s t_s c$
			Ð	
			711	
274(c)	143	ATGCTTTTTATGTTCC	143	$\left[A_{\mathbf{s}} T_{\mathbf{s}} G_{\mathbf{s}} C_{\mathbf{s}} t_{\mathbf{s}} t_{\mathbf{s}} t_{\mathbf{s}} t_{\mathbf{s}} t_{\mathbf{s}} a_{\mathbf{s}} t_{\mathbf{s}} g_{\mathbf{s}} T_{\mathbf{s}} T_{\mathbf{s}} C_{\mathbf{s}} C \right]$
			A	
			712	
			143	$A_{\mathbf{s}}T_{\mathbf{s}}G_{\mathbf{s}}C_{\mathbf{s}}t_{\mathbf{s}}t_{\mathbf{s}}t_{\mathbf{s}}t_{\mathbf{s}}t_{\mathbf{s}}a_{\mathbf{s}}t_{\mathbf{s}}g_{\mathbf{s}}T_{\mathbf{s}}T_{\mathbf{s}}C_{\mathbf{s}}t$
			₽	
			713	
			143	$A_{\mathbf{O}}T_{\mathbf{O}}G_{\mathbf{O}}C_{\mathbf{O}}t_{\mathbf{S}}t_{\mathbf{S}}t_{\mathbf{S}}t_{\mathbf{S}}t_{\mathbf{S}}a_{\mathbf{S}}t_{\mathbf{S}}g_{\mathbf{S}}T_{\mathbf{O}}T_{\mathbf{O}}$
			E	$ c_{\mathbf{O}}c $
			714	Ŭ
			143	$a_s t_s g_s c_s t_s t_s t_s t_s t_s t_s a_s t_s g_s t_s t_s c_s c$
			Ð	
			715	
384(c)	144	GTTTCCTTTGCAATTT	144	$G_{\mathbf{S}}T_{\mathbf{S}}T_{\mathbf{S}}T_{\mathbf{S}}C_{\mathbf{S}}C_{\mathbf{S}}t_{\mathbf{S}}t_{\mathbf{S}}t_{\mathbf{S}}g_{\mathbf{S}}C_{\mathbf{S}}a_{\mathbf{S}}A_{\mathbf{S}}T_{\mathbf{S}}T_{\mathbf{S}}T$
			A	
			716	
			144	$\left \mathbf{G_{s}T_{s}T_{s}T_{s}} \mathbf{C_{s}} \mathbf{C_{s}} \mathbf{t_{s}} \mathbf{t_{s}} \mathbf{t_{s}} \mathbf{g_{s}} \mathbf{c_{s}} \mathbf{a_{s}} \mathbf{A_{s}} \mathbf{T_{s}} \mathbf{T_{s}} \mathbf{t} \right $
			₽	
			717	
			144	$G_{\mathbf{O}}^{\mathbf{T}} \mathbf{O}^{\mathbf{T}} \mathbf{O}^{\mathbf{T}} \mathbf{O}^{\mathbf{C}} \mathbf{S}^{\mathbf{C}} \mathbf{S}^{\mathbf{t}} \mathbf{S}^{\mathbf{t}} \mathbf{S}^{\mathbf{t}} \mathbf{S}^{\mathbf{S}} \mathbf{S}^{\mathbf{S}} \mathbf{S}^{\mathbf{A}} \mathbf{O}^{\mathbf{T}}$
			E .	$T_{O}T_{O}$
			718	
			144	$ g_{s}t_{s}t_{s}t_{s}c_{s}c_{s}t_{s}t_{s}t_{s}g_{s}c_{s}a_{s}a_{s}t_{s}t_{s}t$
			Đ	
TOLC	145	TOTOGRAPHOTOTO::	719	
ISIS 23722	145	TGTGCTATTCTGTGAA TT (18-mer)	145	$T_sG_sT_sG_sc_st_sa_st_st_sc_st_sg_st_sg_sA_sA_sT_sT$
23122		11 (10-mer)	A	
	<u> </u>		720	
			145	$\left \begin{array}{c} \mathbf{T_{O}G_{O}T_{O}G_{s}c_{s}t_{s}a_{s}t_{s}t_{s}c_{s}t_{s}g_{s}t_{s}g_{s}A_{O}A_{O}} \end{array} \right $
		<u> </u>	E	TAT

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	7	<u>′21</u> T _O T
	1	$45 t_s g_s t_s g_s c_s t_s a_s t_s t_s c_s t_s g_s t_s g_s a_s a_s t_s t$
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	1	$45F \mid T_sG_sT_sG_sc_st_sa_st_st_sc_st_sg_st_sg_sA_sA_sT_sT$
	2	<u> </u>
146	1	$46 T_s \underline{A}_s \underline{A}_s G_s c_s t_s g_s t_s t_s c_s t_s \underline{a}_s t_s g_s \underline{T}_s \underline{G}_s T_s T^*$
	₽	
	<u> 7</u>	<u> 24</u>
	1	$46 \mathbf{T_{O}\underline{A}_{O}\underline{A}_{O}G_{s}c_{s}t_{s}g_{s}t_{s}t_{s}c_{s}t_{s}\underline{a}_{s}t_{s}g_{s}\underline{T_{O}G_{O}}}$
		, , , ,
	<u> 7</u>	25 101
	1	46F $T_s\underline{A}_s\underline{A}_sG_sc_st_sg_st_st_sc_st_s\underline{a}_st_sg_s\underline{T}_s\underline{G}_sT_sT^*$
	<u>7</u>	226

^{*} relates to compound Underlined indicates mismatch compared to above compound. Compound 145F and 146F contains the MOE chemistry in capital letters italic which is the compound ISIS23722.

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Please amend Table 3 starting on page 88 as follows:

Table 3 IC₅₀ (nM) of LNA (β -D-oxy-LNA) containing oligomeric in two cell lines of different origin

Oligomeric compounds were evaluated for their potential to knockdown Survivin mRNA in 15PC3 and MCF7 cells. Transcript steady state was monitored by Real-time PCR and normalised to the GAPDH transcript steady state.

Seq ID/design NO	MCF7	15PC3
2A -147	28	5
2B -148		<5
4A-155		<5
4B- <u>156</u>		5
6A - <u>163</u>	8	3
6B - <u>164</u>		<5
9A- 175	11	3
15A-199	1	<1
15B-200		<1
15E-203		1
118A-612		<5
120A-620		<25
123A 623		<5
128A-652		<5
128B-653		<25
129A 656		<25
131A 664		<25
131B-665		<5

Please amend the paragraph on page 88, lines 14-15, as follows:

Compounds of particular interest are 2A, 2B, 4A, 4B, 6A, 6B, 15A, 15B, 15E, 119A, 119B, 121A, 121B, 128A, 128B, 130A, 130B, 131A and 131B. 147, 148, 155, 156, 163, 164, 199, 200, 203, 616, 617, 624, 625, 652, 653, 660, 661, 664, and 665.

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Please amend the paragraph on page 95, lines 5-21, as follows:

Human 15PC3 xenografted tumors according to Example 13 were homogenized in 10 volumes of 0,5% Igepal CA-630, 25 mM Tris pH 8.0, 25 mM EDTA, 100 mM NaCl, 1mg/ml Proteinase K1 and incubated overnight at 37 degrees celsius followed by phenolchloroform extraction. The concentration of antisense oligonucleotide 2650 in the combined aqueous phase was determined using a sequence specific ELISA assay. Two probes, one labelled with biotin and one labelled with digoxigenin (DIG) with complementary sequences to the antisense oligonucleotide are hybridised to the antisense oligo. The complex is captured by immobilized streptavidin and quantified using a horse raddish peroxidase-conjugated antidigoxigenin antibody and standard ELISA procedures. Briefly, 10 nM DNA capture probe (5'-aactgtgc-Biotin-3') and 10 nM LNA detection probe (5'-DIG-GATGTTTCgatgtttc-3')(SEQ ID NO: 738) were mixed with sample or standards in 1 % blocking reagent (Roche cat. 1 096 176) in PBS. The probes were annealed to the oligo by heating the mixture to 70 degrees celsius and gradual cooling to 20 degrees Celsius. The mixture was transferred to streptavidin-coated wells. The amount of captured DIG-probe is quantified using an HRPconjugated Anti-DIG antibody fragment (Roche) and standard ELISA procedures. At least 1,3μg/g tumours tissue of the oligomeric compound 15A was detected (data not adjusted for recovery).